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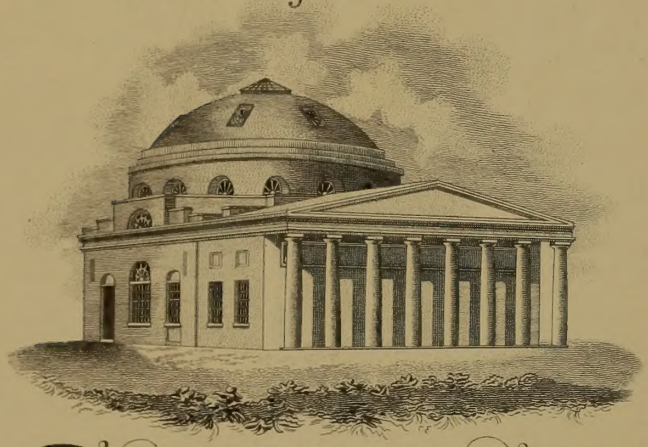

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

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UNIVERSITY OF MARYLAND

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UNIVERSITY OF MARYLAND

THESES

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An

Inaugural Dissertation

On Pneumonia,

Submitted to the Examination

Of the

Provost, Regents & Faculty of Physic,

Of the

University of Maryland,

For the

Degree of Doctor of Medicine,

By

George Smith Hanna.

1

Gentlemen,

In submitting the following brief, and I am aware, very imperfect account of Pneumonia to your inspection, I feel fully assured of your kind and charitable consideration, Knowing, as I do, the acuteness of your observation, I am confident no fault in composition, arrangement of subject, or description of the disease, will escape detection, Yet I feel safer in your hands, than I should in the hands of the ~~less liberal~~ from the fact, that you would be more disposed to ~~over~~ overlook and correct, than parade and magnify the errors it may contain. I am deeply impressed with the importance of the practitioner being perfectly acquain-

ted with the nature and treatment of every disease with which he is liable to meet in the course of his professional career. He stands before the community, by virtue of his Diploma, a man qualified and duly armed with instrumentalities, his knowledge and skill, to grapple with means legion and dreaded foes. And although he may be conscious of being tolerated as a necessary evil; yet even the gratitude one relieved suffers: the probability of having, by his knowledge and skill, been instrumental in prolonging the days of even one of the human race, to say nothing of the pecuniary consideration, should be sufficient to incite him to the utmost diligence, in making additions to the

knowledge already possessed. The field before him is wide; I may say infinite. Room for the most extended range of thought, and intelligent observation is presumed to the medical man. He who takes upon himself the responsibility of a Physician, & neglects to improve his opportunities of becoming more familiar with the principles of his profession, after that he has entered the field of his practice, is certainly unworthy the title he bears: & by no means duly weaborn his calling, or to be useful to his fellows. To treat disease upon the most enlightened, and most approved principles of the profession shall always be my aim. The honor of the fraternity: The benefit

of mankind; my accountability to God shall ever be kept steadily in view. Gentlemen, still hoping for that leniency, which a candidate for the honors of your Institution may reasonably be anticipate. I proceed to the matter of my Thesis expressing the hope that when we meet in the "Grand Lodge" you will let me off as easy as possible,

Yours &c.

Pneumonia

A Genus of disease in the Class Pyrexiæ; and Order Phlegmasiæ, of Cullen. — From the important fact of the lungs being a vital organ, Charged with the twofold office of supplying the blood

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with Oxygen, and at the same time ridding it of its Carbon; thus purifying and preparing it, for healthy circulation; It is perfectly evident, that any cause, operating to exclude the air from any portion of the lung even to impede its ingress or egress by destroying its healthy action or by alteration in the bronchii or air cells themselves; is of serious account, to the whole System. inasmuch as the entire lung, is certainly necessary to the perfect aeryfaction of the circulating fluid. Thus in tuberculosis, hepatization, Emphysema, Compression of a portion of the lung &c. there is an indication of the existence of the evil, in the oppression of breathing, uneasiness of the chest, and other signs, sufficiently expressive of the existing

evil. When this condition of matters has lasted for any considerable length of time, the consequences are shown in the impairment of the general health. The cheek loses its blush of health, the lips become pale, the whole frame is debilitated. The patient soon experiences loss of flesh and consequently weight, thus showing a depraved quality of the circulating blood. Inflammation of a part of the lung, renders that part unfit for the performance of its portion of work, while it hinders the action of the whole lung, by the pain occasioned by the effort of breathing. Hence the quick short suppressed respiration, in this condition of the lung. (although this may be caus partly, — as to the frequency, — by the accelerated cir-

culation of the blood.) In order to remedy this condition of things, it becomes necessary to restore immediately the normal condition of the affected part.) or diminish the amount of blood circulating through the lungs, so that it may be sufficiently acted upon by the sound portion.

In examining the lungs after death from Pneumonia in the first stage, that of engorgement: the substance of the lungs is found gorged with blood or bloody Serum. It is of a dark red color externally. There is less crepitation under pressure of the finger than in sound lung. We feel that there is more liquid than air in the cells. It is heavier than natural: has lost

its elasticity. When cut we find it red, and a red and frothy serum flows from it. The texture is weakened; it is easily torn; somewhat like the Spleen; hence the term Splenization, has been given this stage of its inflammation. The mucus membrane of the small bronchial tubes, is of a deep red color. The lungs in this stage will almost, always float, if put into a vessel of water. — A similar condition, that of engorgement, is often observed, in the lungs of persons dying without inflammation. This is mechanical, depending upon entirely different causes from that of the other, and is found in that portion which lies underneath, after

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death. In the second stage it is still red both externally and within. It will not crepitate; and if put into water it readily sinks. From the filling up of the air cells with dense matter its spongy character is lost entirely, and the lung entirely unfitted for its office. The diseased part is now tender, and easily torn with the finger, from softening of the tissue which maintains its structure. If cut into a red fluid flows from it, but it is not frothy as in the first stage of the disease. The cut surface is of a dark red color, but it sometimes presents a mottled appearance from the presence of black specks in the substance of the lungs. It is evident

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from this condition of the lung & upon opening the cavity of the thorax, and admitting the atmosphere the lungs will not collapse as when they are filled with air, in the healthy state. This solidified condition, from its resemblance to liver has been termed hepatization The third ~~or~~ stage or the stage of suppuration. The tissue undergoes a change of color from the deep red of the second stage it becomes of a straw color or dra-„ The texture is still more rotten than before, It is full of puriform matter but regularly diffused. Thus abscess of the lung is not often met within pneumonia. Gangrene sometimes results from acute inflammation

of the substance of the lung. A small portion of the lung may be attacked with inflammation; or the whole may be implicated. Pneumonia of the right lung is much more frequent than of the left, perhaps in the proportion of 2 to 1. Both sides at once perhaps 1 time in 8 cases. The lower part is more liable to the disease than the upper. Its complications are bronchitis, pleurisy and pericarditis principally

Auscultatory Signs, On applying the ear to the chest of a patient with Pneumonia, in the stage of engorgement, it is perfectly evident from the state of matters within, that we should hear the crackling sound of small or fine crepitation; from

the bursting of ~~air tubes~~ numerous
little air bubbles. At the commencement
of the inflammation, this fine crepita-
tion is heard, combined with the nat-
ural vesicular murmur, and while the
normal breathing sound predominates
over the rhonchus, we may conclude
that there is but small amount of in-
flammation as yet. But as the disease
progresses, the natural sound is obscured
by the sound of the disease, until it
is entirely lost. This warns us of the
march of the disease toward the second
stage. Should it be checked, at this
point, and resolution take place, we
will soon have a return of the vesic-
ular breathing, denoting the favorable change

But if it go on to hepatization they are greatly altered. Sometimes the sound ceases entirely, or there is heard bronchial respiration, as there is no other sound to obscure that, made by the air rushing through the larger bronchi. And we have also the bronchial voice. Being conveyed to the ear through the solid lung, it is much more resonant than through the healthy and spongy portion of the lung. Here we have dulness on percussion, if the solid part come in contact with the walls of the chest, and in the healthy portion puerile respiration, from the part having to make up for the diseased. Should there be a return to health, from this stage,

the auscultation signs of the general change are these. A slight crepitation begins to be perceptible, which becomes more and more marked & extended. The bronchial, respiration, and bronchophony become less distinct, until they are altogether lost, vesicular breathing begins to be heard, and is finally fully established; and the lung resumes its healthy character. But the disease remaining unchecked, it may pass into the stage of purulent infiltration, in which very little is revealed by auscultation.

General Symptoms. On the commencement of inflammation of the lungs, in most cases, the patient will be seized with shivering, succeeded by heat, quickness

ing of the pulse, pain or stitch in the side; cough, and a feeling of great oppression in the chest. Or these y symptoms may be but slight, the breathing but little oppression pain in the side wanting &c. This may be the case where the disease is propagated to the substance of the lungs from inflammation of the bronchi. The pain in pneumonia seems to belong to those cases alone in which the exists pleurite. And we have this complication in most cases. The pain is commonly felt near one breast: but no part of the chest is exempt from pain. This pain is usually most severe in the beginning of the disease: It subsides gradually and ceases for altogether sometime before the end of the pneumonia. Inspiration cough &c ag

gravate the pain. The patient cannot rest on the painful side. Commonly in patients laboring under pneumonia the decubitus is dorsal. The difficulty of breathing is generally in proportion to the extent of the inflammation; but not always; Some persons appear to bear a much larger portion of the lung inflamed than do others without suffering much dyspnœa. Inflammation of the upper lobe causes greater embarrassment of breathing than when the lower lobe suffers. When the dyspnœa is extreme, the patient seeming wholly occupied with his breathing, the air appearing to penetrate no lower than the primary bronchi the case may be considered extremely dangerous. Delirium is a frequent

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symptom in Pneumonia, denoting the effects of deficiently arterialized blood upon the brain. The cough has no peculiar characteristics; it is usually dry at first, but is soon attend with a peculiar expectoration. The expectoration is extremely characteristic of the disease. being when well marked of a rust or brick dust color jelly like and extremely viscid. This color being caused by blood and mucus intimately mingled, of course the greater the quantity of blood the darker or redder will be the expectorated mass. If the inflammation begins to abate, the character of ~~the character~~ of the sputa is altered. Its redness and viscidity diminish, and the expectoration assumes the nature of ordinary catarrh. But if the disease should go on, the rust

colored sputa continues, or is diminished in quantity; or entirely ceases, from its increased viscidity or the debility of the patient, making it impossible, to get rid of it. Thus by its filling up the air tubes, death from suffocation, is the result. In some instances, in the advanced stages of the disease, the expectoration is a fluid, of the consistency of gum water, which is supposed to denote the third stage of the disease. The Prognosis, in the first stage is considered favorable. From the stage of hepatization many recover. But the third stage is seldom recovered from. As a prognostic sign the respiration is the most important. Much dyspnoea, is always an unfavorable sign. If a feeble pulse attends much difficulty of breathing, and is not developed by the first bleeding, it denotes a high degree of inflammation.

and the prognosis is unfavorable, The occurrence of delirium is a bad sign. Brownish watery sputa like plum juice is a sign of suppuration; and therefore unfavorable. The duration of pneumonia, may be put, at an average, of 10 days. Sometimes, it ends in a much shorter time, seldom lasts over 3 weeks. Treatment of Pneumonia. Bloodletting stands first in importance in the acute stage. And the employment of the lancet, will be useful, in proportion, as it is early in the diseases in the stage of engorgement. The patient should be bled in the semirecumbent posture, and from a large orifice in a full stream. Blood should be drawn until an evident impression is made upon the system. until the pulse becomes fuller and

the dyspnoea relieved. Or until the patient shows evidence of approaching syncope. Both the pain and dyspnoea are often greatly relieved by the first bleeding. If the relief is not complete or the pain and and oppressed breathing should return within 2 or 3 hours, the bleeding should be repeated. This should be done as often as circumstances demand it. Local bloodletting, by cupping or leeches, is useful, by relieving the superficial vessels. These should be placed over the inflamed part. When the pneumonia has reached the second stage, bleeding is still useful to diminish the force of the heart's action, and thus helps to prevent the spread of the inflammation, and also by diminishing the quantity of blood circulating through the lungs, to lessen dyspnoea. But as the disease advances, bleeding becomes dangerous by redu-

cing the patients strength, rendering him unable to clear his lungs of the tenacious mucus.

As internal remedial agents, the most valuable are Tartarized Antimony, and Mercury. The tartar emetic treatment, appears to be best suited to the stage of engorgement, and the mercurial, to that of hepatization. The Antimony is not given with a view to excite Emesis, but for its effect upon the inflammation. To prevent sickness and purging, a few drops of Laudanum may be added to the dose. It should be employed after free bleeding. When the dyspnoea ceases from the use of the medicine, it may be discontinued. But should the inflammation again set in, it may be renewed. In the Second Stage Mercury is given with a view

to its slight Specific effects upon the mouth,
And this should be brought about, as speedily
as possible, in order to gain our object.
For if delayed, the solidification of the
lung may have gone on to such a degree,
that the influence of the remedy may be lost.
Small doses of Calomel may be given at
short intervals, with Opium sufficient to pre-
vent its passing off by the bowels. Or, if
Calomel is not well borne, the milder mer-
curial preparations may be substituted.
Or it may be employed externally, as
circumstances indicate. The object is,
to arrest the effusion of lymph, and to
promote the absorption of that already
poured out. When the vital powers ap-
pear to be giving way, and the patient

be traces of crepitation in his lungs:
And we must be very cautious to
remove every particle of this crepita-
tion, before the patient can be con-
sidered entirely out of danger.

An

Inaugural Dissertation

on

Certain Diseases as Associated

Submitted to the examination

of the

Provost, Regents & Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

N. G. Keirle.

The principle of association may be traced in the mind and body, in health and disease. Many of the most formidable maladies — those by which we are certainly immortalized Exhibit this social tendency which may often be referred to vascular intimacy, histological similarity, nervous sympathy or vicarious function. A given pathological phenomenon cannot be attributed solely to any one of these, but amidst their combined action, the predominance of one or the other is evident. An instance of the first variety — the vascular, is presented in the thorax, where the blood-purifier has the

blood-propeller, sending to it the arteriæ venosæ and receiving from it the venæ arteriosæ. Let us imagine now that we have a patient and that this object of our imagination suffers tonic spasm of those bronchial tubes which, according to Mr. Rainey, have a bore one fiftieth of an inch in diameter. Arrayed in his night robes he will sit at an open window even "when January wind is blawing cauld," and the exposure being unfelt subsequent suffering is not likely to result. His elbows will be upon his knees, his head in his hands, thus fixing humerus and scapula with a red and turgid face, if he chronic, or

pallid, anxious and haggard if of healthier vascular constitution, - with a natural or slightly feeble and irregular pulse he wrestles for breath. But amidst this external commotion, auscultation reveals that there is peace within, the vesicular murmur being altogether or almost absent. If now the stratagem of acting in conjunction with the enemy be practised, - if he cease all effort at respiration, Laennec asserts that air will pass the barrier, distend the vesicles and be speedily again repulsed, the bronchi being taken "as it were by surprise," which phrase probably alludes to the fact that parts the seat of

of purely nervous disorder are intolerant of their natural stimuli
E.g. Tic Douloureux is aggravated by
a current of air. Pressure upon the
spine is unendurable by many hys-
terical patients, but remove the cause
and the effect ceases and so is it
with the pulmonary tubes, the irri-
tation of which is so allayed by ex-
clusion of the atmosphere as to re-
quire renewed contact twice or thrice
before they resume their former con-
dition. But let us not neglect our
patient whose fit having lasted
several hours ceases or is arrested
by Morphiæ Sulph. grs. 1/3 or 1/2 and Hoff-
man's anodyne ℥ss. or ℥j. and now ob-

-portunity is afforded for the recital of precursory symptoms which will be as follows; After langour and chilliness during the day he ate without relish his supper — went unwell to bed and awoke about midnight with dyspnoea, flatulent abdomen and copious passage of limpid urine; moreover the disease is engrafted upon his genealogical tree. His grandfather can't stay in the country, his uncle in the town, his aunt can't sleep upstairs, his mother can't sleep down and there are countless other things which this afflicted family can't endure. The remedies resorted to are

bleeding. if congestion will justify it. anodynes and antispasmodics conjoined with opiates; Belladonna gr. 1/8 of extract at bedtime or Datura Stramonium grs. XV or XX smoked in pipe, just prior to attack are of especial value, since they seem to exert an influence similar to their known effect upon the iris. But this scene being re-enacted year after year the dyspnea may become abiding and percussion, made when the lungs are emptied of air by forcible Expiration and resistance is made for some seconds to its entrance, reveals a space much too resonant under these conditions or

remarkably contrasted even with the sound elicited during the unimpeded action of the organs, add to this the complementary information afforded by the ear which detects no vesicular breathing and it is clear that the air is out of place and stagnant. From time to time, also, sonorous with moist ronchi will be present; and if acute disease destroy the patient at this stage his lung will present nodules of various size and shape upon its surface which, if immovable, consist of dilated and ruptured vesicles, or being movable are produced by air in

interlobular or subpleural cellular tissue. These prominences are of pale color, also, which indicates their exsanguine condition and their probable production by pressure producing mal-nutrition. This change from functional to organic modifies the treatment but little, requiring somewhat more attention to slight inflammatory invasions. But the end is not yet; for the suffering, though it may tend to moral perfection, produces slow but surely physical imperfection. The vital ebb and flow, at length claims attention. — The heart betokens its alarm by forcible, feeble

or irregular beats and murmurs in our ear that it is ill at ease. The precise nature of the offending cause is to be determined - 1st by impulse, 2nd by extent of precordial dullness; 3rd; by sounds superadded to or supplanting the natural. As we have made this disease we will fit signs and symptoms to it by making a feeble, heaving upraising impulse, - dullness extending beyond the healthy circle of two inches in diameter around and upon fifth costo-sternal articulation - diastolic sound absolutely bellows murmur tending to apex, - systolic sound two short, sharp

and clear, – pulsating jugulars and feeble pulse. From the foregoing the inferences are that the heart has transgressed its bounds and, also, that it is the displacing organ because, it maintains its normal position ~~also~~, and the signs peculair to a far different disease are absent. The abnormal apex-sound, – the pulsating veins, point to tricuspid orifice as too patent and the alteration in first sound is indicative of atrophy or what is practically equivalent stretching of muscular fibres. How may our patient die? His cellular tissue being distended and macerated

by serous effusion and thoracic viscera embarrassed, some strong emotion may agitate his feeble frame and overpower the heart or being old and having steatomatous degeneration of vessels of the brain, the stooping posture, a cough, an effort to lift a weight may inundate the "cells frail dwelling place," and give "the weary rest."

From a disease, at first, functional, then organic and finally, causing, mechanically, change in another organ, we proceed to a disorder which seems to exert the true power, choosing by preference the fi-

brous tissues, and producing those changes which result from the pathological state called inflammation. Authors describe two varieties of Rheumatism - the serous and fibrous. In the former there is subacute pain, diffuse redness and swelling of that form and elasticity which denotes effusion into synovial sac; the pain in the latter is acute, - the red color radiates along the tendons and ligaments and swelling results from congestion or slight edema. Some would ascribe this disease to a chemical irritant viz; lactic acid

and adduce the acid perspiration, the sediments, high colored urine in proof of the theory. But be this as it may, its chronic action, its "similarity of deformity" when chronic, its tendency to abide long in the system and the alacrity with which it is aroused by slight causes, and the change in the secretions, all indicate a blood disorder and class it among diseases of the fluids.

Low diet - the administration of opiates, of calomel as a purgative, of Colchicum, nitre and other alteratives constitute the treatment, which must be

modified by that good judgement which distinguishes the intelligent physician from the professional fool.

In no disease more than in this does it behove us to be upon the alert, for amidst the noisy and vigorous assault upon the outposts the enemy may be quietly storming the citadel, to which if our attention be directed some irregularity of impulse may be detected — some slight pain complained of. Now, if ever, we must come boldly to the rescue and our weapons will be the same save that before we used

them defensively, now offensively.
In the outset bleeding was intended
to modify the circulation in a
part, now it is used to alter and
diminish it in a vital center -
heretofore we desired the purga-
tive, now the alterative action
of mercury. - Opium formerly an
anodyne is now aid de camp to
the great Hydrag:

We have had a disease
of the right pentracle - the fol-
lowing is of the left, - we have had
a picture but the end shall be
de natura.

Jas: Thompson entered
the Infirmary upon the 13th. May

1857 having two years previous been the subject of the Disease just described and one year prior to his admission had suffered palpitation and dyspnea upon exertion to which had been added, subsequently, edema of lower Extremities. Upon External inspection it was evident that he labored under cardiac hypertrophy which percussion confirmed. Another symptom of the malady was present viz: its tendency to people sleep with horrors, but his intellect was unimpaired, which is not always the case for its potent influence

sometimes justifies the language of the poet -

"In life's last scenes what prodigies are seen
Fears of the brave and follies of the wise,"

In this case, moreover, the certainties and uncertainties of the discoveries of Avenbrugger and Laennec were illustrated.

The attending surgeon, whose visit was earlier than that of the physician, satisfied the curiosity of the clinical class with the following diagnosis. Inasmuch as the murmur accompanied the systole;

ran down to apex and ascended to right costo-sternal articulation of second rib and thence into the carotids, it was pronounced obstructive aortic and regurgitant mitral lesions. This was in the Spring; - in Oct; when "clouds of doubt" had round truth ascended, the visiting physician pronounced mitral disease as clear but aortic doubtful; at the same time, a distinguished gentleman from another city remarked, quaintly, that the "aortic valves held their own" - this was but part of the truth, for on 6th Oct. upon the diagnosis of the sting of tenors there was

found in two pockets of the aorta, – in two of the sinuses of Valsalva a calcareous deposit of half the size of a hazel nut, – the organ was as large as a child's head of a year old. the mitral valves were enlarged but insufficient to close the orifice and the muscular substance was as thick as the hand at the thenar eminence.

Squill, Digitalis, Hyoscyamus, Inf. of Broom, Bicarbonate of potash, Epsom salts were all marshalled to the relief of that which they necessarily failed to cure, for with anasarca, jaundice and hemoptysis the patient probably

perished, immediately, from syncope.

But this is a protracted labor and my brain first births more readily, to the ideas of others than of its own for which I apologize by remarking that no attempt has been made to write anything new nor anything old in a new way — "I tell the tale as it was told to me."

An

Inaugural Dissertation

On

Variola,

Submitted to the examination

Of the

Board of Regents & Faculty of Physic

Of the

University of Maryland

for the

Degree of Doctor of Medicine

By

Philip Dixon Roman

of Maryland.

In presenting this address I of course do not expect to do more than express the opinions of others in as near as possible my own language, for of course it could not be expected that I a student of about three years, would be able to do more than to reiterate those facts, and principles laid down by older and wiser men.

There are no class of diseases, to which the human system is liable, so much dreaded as those called contagious, or infectious, and prominent among these is the subject of my address Small-Pox; not only because it is both contagious and infectious, but from the fact that the peculiar symptoms manifest

during its course, renders the patient disagreeable to himself, shunned by his friends, and in many instances even by his medical attendant.

There is no good reason however that in this age of Medical Science when it is generally admitted that we have a certain preventive, that such be the fact, for I believe that no one whose system has been brought under the influence of modified Small-pox by vaccination, or inoculation, need ever fear the disease, and even were not this the case, I hold that no one who pretends to the honorable title of Doctor should ever disregard the calls of humanity no matter

what might be the risk or danger to himself. Before proceeding to the description of this disease, its various symptoms, treatment &c, I shall say a few words in regard to vaccination and its prophylactic power. It is an established fact I believe that when the system has been once brought under the peculiar power of vaccina, that it is rendered at least for a time perfectly secure from the poison which produces that dangerous disease small pox. The length of time that this influence is exited is a mooted question. While many prominent men contend that it looses its power, in the various changes

that take place between childhood and puberty, others perhaps equally as good authority, say that it produces a final and continued safeguard against the disease, Whilst I am disposed to believe with the latter that when vaccination has been thoroughly and properly performed, and the system has imbibed and exhibited, the peculiar changes consequent upon the result of the introduction of pure virus, then I believe that revaccination is entirely unnecessary. But the great difficulty is to know that this impression has been produced. Unless we watch the patient carefully, observe the

symptoms produced from the time the matter is introduced, until the well marked crust is formed, we are not able to say that it has been perfect. For although we may have swelling, and great inflamation that usually ends in an abcess, it does not prove that we have accomplished our design, but merely that it has had the effect that the introduction of any other foreign substance would have,

Therefore when we have any doubt as to the efficacy of the first vaccination, it will be always advisable to revaccinate and by this guard our patient against the

severe forms of this dreadful contagion. The Small-pox is so well marked, that one who has ever seen much of the disease, could scarcely mistake it, although without a careful regard to the symptoms from the beginning, it might be confounded with Scarlatina, Measles, and other diseases of the Skin, but most likely, for Varioloid, which indeed is Small-pox in a modified form.

Small-Pox has been divided into two classes distinct and Confluent.

In making our diagnosis, we should not only be governed by the symptoms, but circumstances by which the patient has been

surrounded. Although we may have severe pain in the back, head, and limbs we also have these symptoms in various other diseases. In order to form a correct conclusion, we must inquire into the history of the case, whether or not there is an epidemic, and if so, has our patient been exposed to its influence. If he has been, and we find these well marked symptoms, particularly if he has not been vaccinated, we may feel well assured that he has Small-pox or Variloid, and it only remains for the development of the eruption to say,

to xxxx whether it is distinct or confluent. Distinct Small pox commences with a chill of greater or less intensity, followed by fever of a remittent character, with severe pain in the back head and limbs often with vomitings, and indeed many symptoms common to febrile affections. These symptoms continue acute, until the eruption makes its appearance. Then gradually subsides it becomes fully developed. This eruption is peculiar, and could not after its first appearance be mistaken for that of any other disease, being first papulous, then vesicular, and then

pustular, maturing, its appearance as it almost always does first upon the upper extremities, then upon the lower, until it is fully developed, which is about the fourth or fifth day, going on increasing in size and turning, in appearance until about the eighth day, when the true pustule is formed, About this time sudden and important changes often occur affecting the condition of our patient. Instead of the soft pulse and general quiet, we have decided marks of increased febrile action. This is secondary fever, characterized by quick pulse and often sudden prostration

and other alarming symptoms requiring the extreme watchfulness of the Physician, because now the system overcome by local irritation produced by disease of the skin, begins to be depressed and requires in many instances, prompt tonic treatment, scarcely ever necessary previous to this time. It is true that in patients who have been debilitated, previous to the contraction of the disease, may require tonics from the onset but this is not generally the case. About the ninth or tenth day of the disease, or when the vesicles have become pustules, we have great swelling of the face

and head and tumefaction about the eyes producing, in many instances total blindness which last two or three days. This swelling of the skin and scalp is a very unpleasant symptom causing, as it often does severe pain, owing to the extreme tension of the parts.

The third stage of this disease is unattended by any symptoms worthy of note. The pustules become dry, and hard, sometimes but rarely break leaving a scab which generally falls off in two or three days from the time desiccation begins. This process of desiccation does not commence

however on all parts of the body at the same time, for while you may have well formed pustules upon the face, the eruption on the lower extremities may yet be vesicular. After the scabs fall off the whole surface of the skin beneath is covered with red blotches, which time often effaces, but never when the vitality of the true skin has been destroyed.

In Confluent Small-pox we have many of the same symptoms, but of a more aggravated character. The eruption in this form of the disease is not so evenly distributed over the body

as in the distinct, for very often you find a complete mass of vesicles on one part of the body, while on the other it will be distinct. There are several very important and dangerous symptoms in this variety, that ~~xxxx~~ very rarely occur in the distinct. We almost always have cerebral congestion, extreme pain and tenderness upon pressure over the abdomen, with more abundant salivation, and inflamation of the larynx and trachea, making deglutition extremely difficult and in many instances almost impossible. The swelling about

about the face and hand is also very distressing. So great is the tumefaction that in many instances it would be impossible, did we not know the fact to recognize the features as those belonging to a human being. When the eruption begins to turn, or when maturation takes place, we have one great mass of scab, beneath which is the matter which gives rise to that offensive odor common to this stage of the disease. The fever which has a well marked remittent character in the distinct form, may often in this assumes a low typhoid or typhus condition which is a very

grave symptom and almost always followed by death, and should this not take place convalescence is very slow, and often attended by the most serious consequences. The decline of the fever after a severe attack of Confluent Small-pox, is no indication that the danger is past, for although maturation is complete, it is at this period that the most distressing effects often occur. Erysipelatous inflamation, ulceration of the cornea, abcesses in various parts of the body, and in fact all the serious consequences dependent upon the depressing influence

of this terrible malady. And indeed throughout the disease even in the mildest cases we should ever be on the alert, as the changes are often sudden and fatal.

I have thus hastily sketched some of the symptoms that occur in the two varieties of this disease and am perfectly aware that I have but sketched them. It would take much more time and space than I have to enter into a more minute description. The prognosis depends upon the variety. While distinct and uncomplicated, small-pox often runs through its course

without any very serious consequences or uneasiness to the patient; except that arising from unpleasant sensations produced by local irritation of the skin.

Confluent Small-pox, on the contrary in all its stages is a very serious disease. In the mild form when the disease runs through its course without any very serious influmation, we may regard the recovery most certain and permanent.

But on the contrary, should you you have central congestion, obstinate vomiting particularly, after the eruption has made its appearance, it may be regarded as a grave

symptom. Should the eruption suddenly disappear, or present a purplish or livid appearance and the patient sink into a typhoid condition, death is almost always the result. Although the eighth or ninth day is considered the turning point of the disease, in bad cases, death may take place either before or after, Children frequently die very early in the disease, from convulsions or from the excessive inflamation and viscid secretions about the throat. The disease is most fatal in the two extremes of life. A great change has taken place in the manner

of treating Small-pox. Formerly the patient was shut up in a close and heated room, subjected to various stimulating remedies, such as hot drinks, and with the idea to promote the eruption, which is now well known rendered the disease more dangerous. In the mild form little treatment is necessary, should the bowels be constipated, a gentle saline purgative is all that is necessary, and followed by a Dovers powder should there be much uneasiness or restlessness. In severe cases, however, it is necessary, that the bowels should be freely

opened early in the disease, for this purpose we resort to stronger purgatives, such as the Compound Cathartic Pill, Calomel, Compound Extract Colocynth &c, After the bowels have been freely opened, we may give Nitrate Potash in the form of Neutral mixture, in doses of half an ounce twice a day, or as often as necessary. If there are any indications of inflammation of important organs, blood may be taken. It is scarcely, ever admissible however, to take blood from the arm for fear of its depressing effects we can generally relieve the symptoms by local bleeding. The diet should

be light and of a mucilaginous character. In the severe form of the disease, where we have sudden prostration, it may be necessary to stimulate; for this purpose I know of nothing better than Poter, and should not this answer the purpose, we may resort to stronger stimulents and Tonics, such as Brandy, Carbonate ammonia, &c, It is scarcely necessary to go into the various remidies used in the many different stages of this disease. Suffice it to say that as no specific has been found to cure or shorten it, we can only be governed

in our treatment by the symptoms,
and endeavor to alleviate them
as they occur.

Very Respectfully Submitted
Philip Dixon Roman

An
Inaugural Dissertation
on
HERNIA
Submitted to the examination
of the
Provost Regents and Faculty
of
PHYSIC
in the
University of Maryland
for the
Degree of Doctor of Medicine
By
Cornelius T. Knight
of
Maryland
1858

Hernia

Hernia signifies the protrusion of any viscus from its natural cavity, but the term is usually limited to the protrusion of the abdominal viscera of which, the most liable to protrusion, are the small intestine, omentum and arch of the colon.

The parts at which this displacement occurs, are various. The peritoneum which lines the cavity of the abdomen, is generally pushed out before the viscera forming what is called the hernial sac, which is a cavity continued from that of the abdomen, and lined by the same membrane

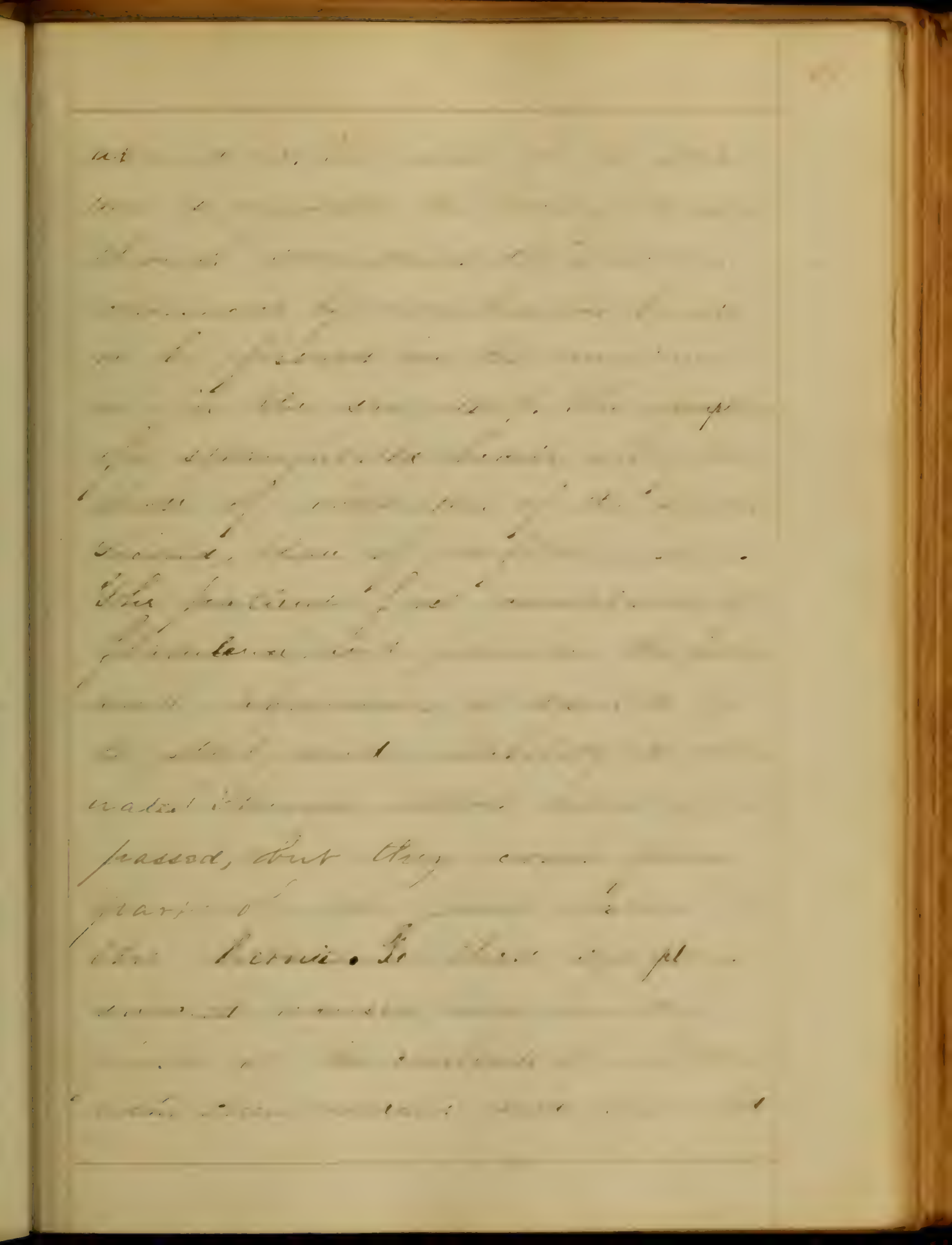
The sac soon after protrusion adheres to the surrounding cellular tissue, and does not return into the abdomen when the viscera are replaced. After passing out at the aperture, through which it has been forced, it gradually enlarges, owing partly to the action of the abdominal muscles, and partly to other causes. The part of the sac which is surrounded by the firm parietes of the abdomen, is prevented from yielding, and remains of a smaller diameter than the rest of the sac, forming what is called its neck. Whilst the cellular membrane is giving out little resistance,

the rest of the protrusion gradually increases in size and forms what is called the fundus of the sac. As a general thing, hernia have sacs; it is by no means uncommon to find them destitute of them, or at least with imperfect ones, as in case of protruded coecum, or if the hernia is caused by a penetrating wound or in some cases of umbilical hernia, or if the sac has been burst by a blow. Causes. When we consider that the abdominal viscera, are subject to pressure and violent pressure from the diaphragm, and other muscles by which they are sur-

rounded, which pressure tends to force them out against the walls of the abdomen; we can readily understand the formation of the hernia. The predisposing causes consist in weakness of parietes of the abdomen, at the natural openings, and this weakness may be increased by injury, disease, pregnancy, abscess, dropsy, or there may exist some congenital deficiency. The exciting causes are compression of the viscera by the action of the abdominal muscles. Hence hernia is so frequently a result of muscular exertion, as running, jumping, lifting, [illegible]

wrights, and the like, especially if the patient is previously weakened by illness. It is also frequently caused by straining at stool, and also straining to evacuate the bladder.

Division— Hernia is divided into reducible, irreducible, and strangulated. It is said to be reducible when the protruded viscera can be returned into the abdomen: Irreducible when they cannot be returned into the abdomen, and strangulated, when the [illegible] of the sac [illegible] [illegible] and [illegible] returned into the [illegible] [illegible] [illegible].



rapidity and violence of these symptoms. If the patient be a strong adult, and the strangulation was commenced suddenly or [illegible] straining and [illegible] exertion, the inflammatory stage may come on instantly and death will follow in a very few hours. On the other hand if the patient be old, and the hernia has been long irreducible with a large neck - and if the strangulation is produced by distension of the protruded bowel with flatus & faeces, the [illegible] of strangulation [illegible] [illegible] the inflammatory [illegible] in this latter [illegible] cases the [illegible] of [illegible]

is [illegible] vised. [illegible] [illegible] be [illegible] omental [illegible] pt. [illegible] acute than if it be intestinal.

Diagnosis. If a patient with irreducible hernia be attacked by colic, enteritis, peritonitis, the case will present many of the features of strangulation, yet it may perhaps be distinguished by noticing that the pain and tenderness did not begin at the neck of the sac, and was not more tense than elsewhere. If the inflammation, commences in the [illegible] or in the intestine in the sac, the diagnosis will be very obscure. In every case of [illegible] vomiting and colic, the surgeon [illegible] [illegible] amine all the common seats of hernia [illegible]

[illegible] for hernia [illegible] the [illegible] dividing because the [illegible] have been [illegible] for years and [illegible] in these [illegible], not mention it. Morbid [illegible]

After death from strangulated hernia, the intestines are found reddened, the upper [illegible] them much distended, and there are effusions of serum and lymph around the sac, and the tissues are oedematous, and [illegible]tous. The strangulated intestine is of a dark [illegible] color, and is turgid with blood, [illegible] in patches by an [illegible] of lymph and displaying marks of [illegible] in the form of gangrene [illegible] coloured [illegible] which [illegible]

under the [illegible]. [illegible]
is of a dark red, and of [illegible] ren-
ous, it feels crispy and [illegible]
sematous, and the blood in its
veins is coagulated. The sac [illegible]
contains bloody serum. Treatment—
The great object is to replace the
protruded parts to their natural
situation within the abdomen,
except in cases where they are
probably mortified. The [illegible]
employed for this purpose are
very various; the principal of
which are, the taxis [illegible],
warm bath clysters of tobacco,
cold applications [illegible] cathar-
tics, and the operation.
The taxis—By this [illegible]
express the attempt to reduce the
hernia by the hands. This [illegible]

consists in endeav[illegible]
the protruded [illegible]
[illegible]
emptied, the patient [illegible]
down with his [illegible]
and both his [illegible]
his belly, and be placed close to
each other so that every muscle
and ligament [illegible]
which is connected with the
abdomen. He should [illegible]
from straining or coughing or
[illegible] any [illegible]
with his respiratory [illegible]
Then the surgeon, if the tumour
be large, should [illegible]
the palms of both hands, and
gently [illegible] to
pressure, to [illegible]
[illegible] into the abdomen.

At this [illegible] the [illegible]
the neck of the sac, and at the
same time with his fingers, [illegible]
kneads, and sways the parts at the
neck of the tumor, and he might
pull them very gently downwards
in order to dislodge them. This
operation may be continued [illegible]
half and hour, or longer, if the
parts be not tender, but if they
are tender not so long, and [illegible]
[illegible] a portion of the contents
of the sac, will return with
gurgling sound. Too much [illegible]
must not be used, as it might
bruise or rupture the viscera.
It is said that it sometimes [illegible]
[illegible] that the [illegible]
where the abdominal walls are
not [illegible] [illegible]

would be [illegible] enough to [illegible] this [illegible], if the indications [illegible] gain. If the taxis should prove unsuccessful, bloodletting, to the approach of syncope [illegible] tried, if the patient is [illegible] and the hernia [illegible] and if there is much [illegible] of the sac, and abdomen, in which latter case it should be employed, before trying the taxis. Should the hernia not be reduced by this attempt, the patient should be placed in a warm bath, the temperature of which should be about one hundred de[illegible] and be allowed to remain in it long enough to produce relaxation and the taxis tried again. It should be remembered

that a patient who is [illegible] will not bear the shock of an operation so well, when he is relaxed too much, or kept too long in the warm bath. The next means is, the tobacco enema, which is made by infusing a drachm of tobacco in a pint of boiling water for ten minutes. This has been in some instances very successful, but it is a most dangerous remedy, and one that is not recommended but in some desperate cases, when the patient refuses to be operated on. It has proved immediately fatal to many and has rendered others incapable of sustaining the shock of the operation. The next [illegible] remedy is the application of cold to the tumour by means of [illegible]

[illegible]
It is [illegible] in [illegible] inflammation
condensing flatus, and [illegible]
the skin. It is most applicable to
scrotal hernia. It he is not
without its dangers, as it may
cause gangrene of the skin if
applied too long, or if hot
applications, are incautiously used
after it. A large dose of opium or
morphia, is often beneficial in
cases of acute strangulation, after
bleeding especially if the pain
and vomiting, are violent.
Purgatives and enemata, are in
sudden acute cases, irritation
and mischievous, but of great
benefit in old patients who
have large herniae, which have
been long irreducible, and if the

attack has been preceded and caused by constipation. Calomel and colocynth, given in large doses are the best purgatives, and the enemas should consist of as much salt and water as can be injected without causing very much pain and distension. They should be injected by a [illegible] ing syringe, with a long [illegible] into the colon, as a long tube [illegible] the [illegible] thereby diminishing the [illegible] the contents of [illegible] renders the return of the [illegible] more easy. In old standing cases, occurring in old [illegible] with large hernias the [illegible] may be justified in waiting sometime to try the [illegible]

[illegible]
[illegible] occurring [illegible]
[illegible] is that if the [illegible]
aided by [illegible] the [illegible]
and opium do not [illegible]
is the best plan to [illegible]
operation for dividing the [illegible]
without further [illegible] the
other remedies [illegible] if the [illegible]
will not [illegible] to the [illegible].
The operation [illegible]
consists in [illegible] the [illegible]
viding the [illegible]
the intestine [illegible]
[illegible] The [illegible]
knife and [illegible]
examined. If [illegible]
claret colored [illegible]
slightly [illegible]
or pres[illegible]

[illegible]

[illegible]

The wound may be closed by sutures and a compress [illegible] upon it. If the omentum is [illegible] by broad bands, these should be divided. But if the [illegible] [illegible] be divided and then returned. If the intestine is [illegible] it should be [illegible] and the portion [illegible] [illegible] [illegible] tion is gangrenous, or thick and indurated, it would if returned create dangerous inflammation of the peritoneum. In this case some surgeons recommend it to be cut off close to the neck of the sac, leaving it there as a

ting to prevent further protrusion. Others on the contrary recommend it to be cut off cleanly and all the vessels to be tied with silk ligatures, and the end then to be passed again into the abdomen. Some surgeons advise that the stricture should be divided or released by dividing the parts surrounding the neck of the sac, without opening the sac itself. But this plan would not do in all cases, as the stricture may be in the sac. The most advisable circumstances under which this method of operating should be followed, are when the hernia is very large and has been long irreducible, or when it is small and of recent date

An
Inaugural Dissertation
on Dysmenorrhoea.
Submitted to the Examination
of the
Provost, Regents & Faculty of Physic
of the
University of Maryland.
for the
Degree of Doctor of Medicine
by
Robert Potter Kerr.
of Maryland

MDCCCLVIII.

Gentlemen.

Agreeably to your requirements, we respectfully submit the following to your Consideration; being fully impressed with the Conviction of the numerous faults to which it is liable, and also aware of the many shortcomings which may be found within its pages.

The probationary period of my Medical Education has now nearly elapsed; the kind instructions of our teachers in the various departments, both at the bed-side, and in the Lecture Rooms, have been listened to with satisfaction, and we trust with improvement; and some of it is probable

those who have been guided by your directions, and watched over with your parental solicitude, will be engaged upon the active arena of life. The worthy exponents, we hope of their excellent Alma Mater. Throwing myself, therefore, upon your kind indulgence for any sins of omission or commission, which these pages may contain, I present them to you, unembellished by the vagaries of fanciful theories or pretentious discoveries.

It would be a matter of injustice, and, in fact, ingratitude, were we to omit mentioning the sense of obli- gation we are under to Dr. Philip C.

Williams. Lecturer on "Diseases of Women and Children" in the "Balto. Medical Institute" for the valuable and practical information he has imparted in his lectures. Much of the subject matter which we now present before you, has been eliminated from ideas, which his discriminating mind has promulgated.

"Having premised these few remarks, we will now proceed to the subject which has been selected as the theme of our Thesis. viz. Dysmenorrhoea.

And first we would observe, that this is but one of a class of diseases denominated "Disorders of Menstruation." It would seem proper, before entering

fully upon our subject, to understand beforehand, something of the healthy functions about to be treated of, and we can afterward more easily comprehend the non-fulfilment of the duties required, and the relations they bear to health.

Woman, the companion of man, the instrument in the hands of Divinity for the propagation of the human species, presents to the medical mind a wide field for special attention and care. Naturally the weaker vessel, with refined sensibilities and tastes, and an organism intricate in its character and functions; it is not to be wondered that deviations

from the standard of health should frequently occur. and her happiness of life often disturbed. We will now presume that the bud of infancy has expanded into the flower of puberty, and that the phenomena of Menstruation have now commenced. This we define to be. a sanguineous fluid which is excreted by the uterus, escaping from the vagina every lunar month, taking place in healthy women, and continuing from the age of puberty. to the period when she ceases to be prolific — to the act we apply the term "Menstruation;" but the discharge we call the "Menses" or "Catamenia". It was at one time

supposed to be a secretion of blood.
but this idea is easily exploded, when
we consider that no organ secretes
blood. This function, therefore, is so
essentially linked with the happiness
of woman, that its derangement
interferes with her entire economy,
and is felt throughout every part of her
Constitution. It should be accom-
-plished without pain or discomfort,
and when owing to causes, acting either
generally or locally, this is interfered
with, and the condition of things
deranged, the menstrual period is
accompanied with more or less suffering.
This suffering occurs sometimes at one
period only, and does not return at

at the next, and at other times the period is always marked by pain more or less intense. When this latter result takes place, we apply the name of Dysmenorrhoea, or in plain English. "difficult Menstruation".

Definition: The subject of our thesis we therefore define to be, an abnormal condition of the Menstrual function, Continuing generally for some time, and attended with severe pain in the Secretion and emission of the Catamenia which may either be scanty, superabundant or in its usual quantity. We here perceive that the most important feature brought to our notice is pain. This we find at times Comparatively slight,

and the patient is quickly restored to health.
but again we find it persisting & entailing
permanent ill health, and in some cases
sealing the sexual organs with sterility.
It hardly requires me to say that we
have entered upon the consideration of a
very important disease, and one which
is by no means uncommon.
Causes. Like most other diseases, it
may result from General and local causes,
arising from disease affecting the general
health of the patient, or from causes ori-
-ginating in the structure or condition
of the womb itself. For example, we
can readily understand how it may
result from Chlorosis, or from any disease
affecting the Constitution of the blood

and thus interfering with the healthful discharge of the menstrual function. We naturally expect, that anything affording an obstacle to the escape of the discharge, would produce painful Menstruation; and hence, Obstruction of the Os Uteri becomes a cause of the Complaint, whether the obstruction be the result of Constriction of the Os, or the presence of Tumors in the womb. Inasmuch as this form of the disease results from Mechanical hindrances, we term it "Mechanical Dysmenorrhœa."

"We are well apprised of the fact, that Rheumatism has a particular affiliation for fibrous structures; and as the uterus is well supplied with

this material, as might easily be so effected. The distention of the parts incident to menstruation, would therefore when they were materially affected, produce pain, and we thus have another form of the disease, styled "Rheumatic Dysmenorrhoea".

Again we know that the sexual organs may be the seat of Chronic inflammation, and this too may be attended with sufficient Congestion to produce difficulty and pain in the escape of the Catamenial discharge. We thus have another form, which we will designate as "Congestive Dysmenorrhoea".

"Finally, as to the forms, we have still another, which is characterized by no discoverable lesion, but particularly

noticeable on account of the intense suffering which attends it; - and to this we apply the title of "Neuralgic Dysmenorrhoea". We have therefore divided our subject into four varieties, viz. Neuralgic, Congestive, Rheumatic & Mechanical, to each of which we will severally attend.

Neuralgic Dysmenorrhoea, which we will first consider, is perhaps the most common of all. It generally occurs in delicate females, and especially those who are subject to Neuralgia in other parts of their organism; mostly attacking unmarried females, or if they be married, those who have borne no children. Dr. Thorn hill also observes that it is more frequent after 30 years of age than before. In these cases

the pain is very severe, at times almost insupportable. But we have no evidences of inflammatory action, the pulse is weak, and rarely accelerated, skin is cool, the functions, excepting the one in question, are all duly performed, and we find no proportion between the constitutional suffering and the local disorder.

The marked feature in the case, as has been already stated is pain, which comes and goes, leaving intervals of ease, shooting about through the abdomen, and rarely confined to any given spot - it assumes all the characters of neuralgia, and hence deserves the name which we have applied to it. Sometimes the attack is very sudden,

and takes the patient by surprise: but more generally however, it is preceded by symptoms of uneasiness in the pelvis, accompanied with a sense of slight fullness and weight in the uterine region, this increases for a time, when it gives place to intense pain, the duration of which varies. Sometimes it is only for a few hours, when it ceases altogether, or else returns with equal violence after an interval of ease. Rarely however, do we find it lasting more than 7 or 8 hours, and is generally relieved in a great measure, if not altogether, as soon as the menstrual flow is established: — But in some rare cases it persists for 2. 3 or 4 days and indeed may continue the whole menstrual

period. The discharge varies much in quantity, at times being abundant, but it is generally scanty, and contains clots or shreds of a membrane formed in the uterus at this period.

We have now examined the various symptoms belonging to this form of disease, and now the great question, in which the reputation of the Physician and the happiness of his patient is concerned presents itself. What means shall be used for the alleviation of this distress? Two important indications immediately suggest themselves. One, to give relief from the almost insupportable pain during the attack; the other, to prevent its return at the next menstrual period.

First then as to the treatment during the attack, And this beyond all doubt requires some decided means. for as stated before, the pain can scarcely be tolerated. The best agent to accomplish this end is Opium or some of its preparations; or else some other active Narcotic, Occasionally we find persons affected with peculiar idiosyncrasies; some for example who cannot take Opium, without some unpleasant consequence ensuing. — in such cases Belladonna or Hyoscyamus might be used, the latter probably having the preference from the less danger attending an overdose. But whatever medicine is given, the dose must be large. to produce any effect upon the disease. Of Opium 1 or 2

grains might be given, or from 1/4 to 1/2 gr. of Morphia. If Hyoscyamus be preferred we give ʒi or ij. and repeat at short intervals till relief is obtained. which generally takes place in 1 or 2 hours. and in a few cases instantly. In addition to this. use warm fomentations to the hypogastrium and the genital organs, and also apply warmth to the feet.— in fine. do every thing which would promote the flow of the menstrual discharge. Temporary relief may thus be obtained. But another question is now suggested. What shall be done to prevent its recurrence? or in other words. What is the treatment during the intermenstrual period? This must of course be regulated by the

peculiarities of each case. Every thing must be done to improve the general health. Tonics, such as Iron and Gemmine must be used. - the diet must be good and nutritious, and exercise in the open air should be advised; - she should walk rather than ride, and if she ride, let it rather be upon the horse, than in the Carriage. As she approaches her next menstrual period, it would be well to cease the Iron, and give a mixture of the following ingredients ℞. Ext. Belladonna gr iij. Pulv Ipecac ℈j Aquae Camphorae ℥vj. Fiat solutio. And give a tablespoonful thrice daily. - Should the Belladonna affect the pupil very much, we can diminish the dose.

By these means we may generally succeed in preventing the attack; but should first attempts fail, the same treatment should be persevered in for some time, when success may eventually crown our efforts.

Congestive Dysmenorrhoea.—It has been already stated, that the womb in conjunction with the ovaries, might be the seat of inflammation or congestion, and thus be the cause of the disease under the above title. In such cases it is generally considered the precursor of Amenorrhoea, and may ultimate in this disease, which is but a name for the cessation of the menstrual flow. We find the subjects of this form, quite different in their constitution from those

affected with the neuralgic attacks.
It occurs in women of a plethoric habit
without reference as to whether they are
single or married, and if the latter, without
any reference as to their having borne children.
The attack is ushered in with the usual
phenomena of inflammation: a sense of
heat, irritable restlessness, rigors, flushing,
and headache. The suffering is very great.
but differs from the neuralgic in the
pain being fixed, whereas in the other
we have it jumping from place to place:
there is great susceptibility to light &
sound, skin is hot and feverish, pulse
quick and full; lassitude affects her,
pains in the lumbar region, and Dewees
says he has noticed pain and swelling

of the breasts. These symptoms are all subsidized by the occurrence of the Catamenia. They only happen about the time of the discharge. and during the intervals. Comparative rest is obtained.

Treatment in such cases must be entirely Antiphlogistic and Sedative. the activity of which must be proportioned to each individual case. and of course must be left to the discretion of the Physician. Bloodletting. both in its general and topical forms must be resorted to. Cups applied over the loins and scarification of the Cervix uteri is proposed. In conjunction with these means, we rely also on purgatives, febrifuge & Cooling medicines to combat

the inflammation, Hygienic means, such as a low diet, non-stimulant in its nature, and moderate active exercise, will go far towards the promotion of a desirable healthy end. We must remember to keep the Alimentary canal in a regular condition, and when the next Catamenial period arrives, should there be exhibited a tendency to excitement, blood should be abstracted in some of the usual ways. In the case of Chronic inflammation the recommendation of Dr. Churchill to paint the neck of the womb with a strong tincture of Iodine, should, I would presume, act very efficaciously. Formula is as follows, ℞. Iodini ʒj. Potass: Iod. ʒij. Spt. Rectificati ℥iv. M.

"Rheumatic Dysmenorrhoea" generally occurs in women, who suffer either from Acute or Chronic Rheumatism, in other portions of the body. And this circumstance of itself should lead us to suspect Rheumatism of the womb. There is no reason why that organ should not be attacked, for we are well aware of the liability of all fibrous tissues to be thus attacked, and in the composition of the uterus there is a large admixture of this element. The mode in which ladies dress is perhaps the most fruitful source of this form, — their thin shoes and stockings, together with the other garments of light texture are totally unsuited for their full protection from the cold and damp, and

constantly expose them to the predisposing and exciting causes of ~~colds &~~ Rheumatism. Hence it is not a matter of surprise if they should contract the disease, or that it should attack the womb. It is therefore important that this fact be borne in mind; for the treatment of such dysmenorrhoic patients must be primarily addressed to the Rheumatism which causes all the trouble; and if this fact be not looked into we can hardly expect any success in our endeavors — The known virtues of Colchicum in this disorder would immediately suggest itself to the mind, and it is this therefore which we would deem most proper to be administered. An excellent form for use

would be the preparation known as Scud-
-damore's Mixture, Composed of Tincture
of Colchicum and Sulph. Magnesia in
some Aromatic water (Aqua Mentha
or Cinnam.) In addition to this Medical
treatment, we should also pay strict
attention to the hygienic condition
of our patients. Let her be removed
as far as possible from the causes
liable to produce Rheumatism.
— Let thick and warm shoes be
provided for her, and see especially
that the lower extremities be clothed
in flannel. Such precautions will
generally be rewarded by the restora-
-tion of your patient to the
enjoyment of her health. —

"Mechanical Dysmenorrhoea" —
This last form of the disease, is as may be already inferred, the result of some obstruction of the Os Uteri, either by diminution in the size of the canal; or by tumors occupying the neck of the womb, thus partially obliterating the os. It is very easy to suppose that if the Os uteri be narrowed from any cause, that the menstrual fluid cannot escape with due facility, and pain will be produced. The diagnosis in such cases may be rather obscured, and for full satisfaction it may be necessary to resort to the Speculum. From the facts already laid down, it

can easily be understood that in a case of this kind, the cause is manifestly neither Congestion nor Rheumatism. There are therefore, only remaining Either Neuralgia or some Mechanical impediment from which to choose.

It would be well perhaps to treat it Medically first. by Opium or Belladonna, and if in time we find no relief obtained, we can only suppose that some mechanical obstacle intervenes, and to ascertain fully the nature of the difficulty we have recourse to the Speculum — On Examination, if we find the Orifice in a state of Stricture, we must resort to the same treatment applicable to a case of Stricture of the urethra in the male,

In order to accomplish this dilatation. it has been recommended by Dr. Locock, the Accoucheur of the Queen of England, to incise the os. and thus enlarge it.— But this method of procedure is liable to the objection that the cure thus made is rarely permanent. for the Cicatrix may contract and render the orifice as small as ever. A slower, but surer method is the use of bougies. At first we use a small bougie, and by a gradual increase in its size, we can dilate the os to the extent needed. Of course in order to introduce it properly, we must use the Speculum.— When selecting a bougie of the proper sort and size, we introduce it slowly and cautiously, avoiding not

only injuring the mucous lining of the neck, but also avoiding penetrating the Fundus Uteri with the point of the bougie Allow the instrument to remain in the place a few minutes, and then withdraw it carefully, and afterward order an injection of warm water into the vagina two or three times daily. Should signs of inflammation present themselves, they should be met immediately, and for several days we must refrain from the introduction of the instrument, and indeed it is always necessary to wait till all inflammation has subsided. Should no ill results follow another bougie, a little larger than the previous one may be used, the same precautions

mentioned before, being faithfully carried out. We then go on increasing the size of the bougie, until the parts be sufficiently dilated, always recollecting that on an average we must not introduce it oftener than every second or third day: and bearing in mind too, that its use is to be abstained from during the menstrual period, during which time the pain will have to be relieved by the medicines already mentioned, particularly Narcotics.

Dr. Mackintosh of Edinburgh, mentions 27 cases treated in this way, of which 24 were cured, and 11 or nearly one half afterward bore children. But quite often Dysmenorrhoea resists

this mode of treatment, and our success is by no means sure. In such cases we make such additions to the treatment as circumstances would dictate.

We have thus briefly, and we hope explicitly and understandingly endeavored to define the term Dysmenorrhoea, to tell the principal causes producing it, and to arrange them under the several heads they suggested.

The treatment for these different classes has also been considered. resolving itself in all cases, into two principal parts, that during the attack, and that used in the interval ~~between~~ between the attacks

In the first of these, the great object has been to relieve the pain, which was the all-absorbing topic of the moment; and in the second place to direct our treatment to the Constitution, so as to remove any cause of disease existing there.

It should be a fixed and unswerving rule in our future practice, never to treat diseases by their names, but according to the symptoms they may present.

To you, gentlemen, therefore, is now submitted this essay upon a branch of Medical Science, — its many imperfections and omissions will we hope be excused. Your

magnanimity will, we are sure, not expect in the science of Medicine, that old heads should be placed upon young shoulders. - Time and experience will be necessary to fully realize the importance of those matters, which you all have so earnestly endeavored to impress upon us. Thanks for the countless favors which your kindness has bestowed upon us so freely, should form a fitting peroration to our Thesis. - Receive them as the outpouring of grateful hearts, which futurity shall not fail more highly to appreciate. The advantages possessed by the University of Maryland for a thorough acquaintance with the Medical Profession, and the acknowledged talent and ability of

all connected with its management,
are facts not new to the observer.
That our anticipations of its future may
be realized, with even a greater brightness
than the retrospection of the past can
present, is the sincere desire of

Yours truly

Robert John Kerr.

of Maryland.

An

Inaugural Dissertation

on

Cholera Infantum

or, Summer Complaint of Children.

Submitted to the examination of the

Provost, Regents and Faculty of Physic

of the

University of Maryland.

For the

Degree of Doctor of Medicine.

By

John Joseph Pullen

Maryland.

1855

It is a sad thing, during the summer season, to cast ones eye over the bills of mortality in some of our large cities and see how many Children under Five years of age pass away in a single week, and when we take the whole number that die during a hot summer, we do not say too much, when we affirm that the detail is absolutely shocking. How is such frightful mortality to be account=ed for? It is not to be supposed that man, as an Animal, is worse organized and provided for than those of the inferior species — Children are born to live, and not to die; to grow up and not to perish undeveloped. We cannot suppose other=wise, without impeaching the wisdom or

goodness of the Creator. We cannot suppose that a perfectly wise and Omnipotent Being created merely to destroy; that he brings the germs of a human being into existence merely to inflict on an innocent creature the pains of disease, and opens a rational vision upon this fair world, only to close it again in utter darkness. And then what pangs do such bereavements inflict on hopeing parents and affectionate relatives and friends! The sick bed of a Child is a scene always of peculiar distress, and sometimes of hopeless and speechless agony. The sufferer cannot tell its pains, nor indicate the means of relief, and while we listen to the cry of Enduring nature, which so often rings

in our ears during the hot summer's night
indicative of pain and distress; the sug-
-gestion, we confess, often comes up that
there must be something wrong here. There
is some great mistake. Such results look
more like human error and mismanagement
than any fault in the counsels of Infinite
Wisdom. It is more likely that fallible
man mistakes, than that the All-Wise can
have failed in the structure of any of his
Works.

What then let us inquire are the
great causes of this mortality? What
are the great foes of the life and health
of children in our large cities? These
are impure Air, High temperature and
improper food. These causes acting

upon the highly susceptible System of the Child, produce various diseases, especially of the Stomach and the Alimentary Canal — Diarrhea, Dysentery & Cholera Infantum

There is no disease to which childhood is liable which produces a greater amount of mortality than the Cholera Infantum or Summer Complaint of Children, especially in the Cities of the Middle, Southern & Western portions of our Country. Dr. Condie who collected Statistics of the deaths among Children, in the City of Philadelphia for 10 years tells us, that the number of deaths from 1834 until 1844 amounted to 3553 — nearly Eleven per cent of the whole number

of the deaths among children under 5 years of age. Its frequency and great fatal=ity, should make the disease an object of great interest especially to the profession; and I shall endeavour to describe the Symptoms, course, terminations, treatment &c of the disease, in as clear and compre=hensive a manner as possible

Cholera Infantum generally commences, like the disease after which it is named, "Malignant Cholera"; with increased alvine evacuations or Diarrhea The discharges being of a green or Yellow colour, or light coloured and very thin. This does not last long before it is combined with Vomiting. The Stomach becomes very irritable, rejecting every thing that is

taken into it. Sometimes this irritability of the Stomach continues throughout the attack; whilst in other cases it ceases at an early period, while the Diarrhea still continues unabated.

The disease causes great prostration, and the little patient is rapidly emaciated. The Pulse is frequent, small & corded. Tongue somewhat furred, Skin dry & harsh, while the surface of the body is irregularly heated, — the head & trunk being hot, whilst the extremities are natural in temperature, or even cold. Towards evening there is fever, restlessness & Pain. There is always intense thirst, but whatever fluid is taken is generally immediately rejected by the

Stomach. The Abdomen is often swollen
tumid and painfull to the touch. In
the more advanced cases Petechiæ
usually appear upon the surface of the
body. The tongue and inner surface
of the mouth are covered with Aphthæ
The discharges which at first consists
of the previous contents of the Stomach
and intestines, becomes dark coloured
profuse and offensive, resembling the
washings of stale meat or putrifying
flesh. Worms either dead or alive
are voided in the Stool. Dr. Dewees consid-
ers the passage of live worms a very
unfavorable sign. The Child becomes
more and more exhausted, falling at
length into a state of Coma, death being

preceded in many cases by convulsions.

Vomiting and purging are the leading symptoms of Cholera Infantum, but alone they do not constitute the disease, not even if nausea be added to them. The great distinction arises from the constitutional symptoms added to those which are local; and among these Constitutional Symptoms, the great prostration of strength and the shrunking of the whole body are the most important. The patient will sometimes become reduced to a mere skeleton, lended on a pillow, the skin so loose that it may be wrapped over the adjacent parts, with so little strength remaining as to be unable to move Hands or Feet.

The anatomical changes which are observed in those who have fallen victims to the disease, are various, but are chiefly confined to the Alimentary canal. According to Dr Condie if death occurs early in the attack, the only morbid lesion discernable, is often an unusual paleness of the mucous coat of the Stomach and intestines. But when the disease has continued for a longer time, there is always some indication of inflammation of these parts, with more or less Hepatic Congestion. The Mucous Membrane becomes reddened in points or patches, while the glandular follicles become enlarged and even ulcerated. The Mucous membrane is occasionally so soft

without any other changes of inflammation being perceptable. The intestines some-times contain green, yellowish or colourless mucus, thick and tenacious. Dr. Horner describes a case in which he found offensive Pus collected in the Colon.

The Liver is generally enlarged and congested. It is described by some writers as being greatly increased in size, soft and spongy and of a light Yellow or Mottled colour. The Gall Bladder is found filled with a liquid sometimes dark green, and sometimes colourless. In the more advanced cases indications of Inflammation of the Bowels are perceptable, and in those cases in which

the patient has exhibited Hydrocephalic symptoms before death, the brain has frequently been found softened.

Cholera Infantum, comparing the symptoms, with the appearances discovered after death, would appear to depend upon inflammation of the Mucous Membrane of the Stomach and intestines, especially of the mucous follicles - hence the profuse watery evacuations, - combined with a congested and torpid state of the Liver. The morbid appearances discovered in other organs being secondary or accidental.

The disease is confined almost exclusively to young Children between the age of 3 months and 5 years - usually

in infants under one year of age. The predisposition to disease is greatest during the first year, owing to the deficiency in vigour of most of the functions, and the imperfect organization of all parts of the body, thus rendering it peculiarly liable to the action of any exciting cause, especially heat and cold, or any agent which by its action tends to disturb the equality of the circulation, causing a state of hyperaemia or congestion in one or other of the tissues of the body, which from the delicacy of its structure and the exalted vascular action peculiar to childhood, quickly runs into inflammation.

The Mucous Membrane of the Stomach

and intestines, is the chief seat of disease in children. It is very liable to be irritated by many causes; an excess of food, stimulating or food unadapted to the condition of the digestive organs. A reduction or too great an increase of the temperature of the surface of the body, or exposure to cold and damp, will, in many cases, give rise to irritation or inflammation of the Alimentary Canal.

The chief cause of Cholera Infantum is a combination of heat of weather, with the impure atmosphere of Cities, either of these causes may be alone sufficient but in this case they are generally combined together — The disease rarely happens in the Country where one of the above causes —

the heat alone, is present. The influence of a high atmospheric temperature in causing the disease is shown by the fact that in the cities where it prevails, its violence, and the number of deaths are in proportion to the heat of the summer.

In hot weather the exhalations of cities are absolutely pestilential. The smoking streets, the fetid sewers, the drains and stables, are always throwing up an amount of corrupted atmosphere surpassing all estimate in quantity and poisonousness. There is absolutely no pure air in a city during the hot summer season. For health the lungs require a certain number of cubic feet of pure air every hour. Deprived of this, the whole system sinks and

collapses. Fire becomes extinct the moment you feed it with corrupted air. The lamp of human life burns brightly only while it is supplied with the same pure air which imparts vigour to combustion. Adults for a time can bear the privation, though at the expense of the loss of strength and animal spirits. But infancy and childhood are prostrated at once. The skin becomes flabby, the muscles become relaxed, and the digestive process becomes embarrassed and a general uneasiness and irritability give notice that the universal system is running down. Nausea and fever set in and the progress is daily downward to lower and lower degrees of prostration.

Another cause of the disease is the

improper and unwholesome food which parents in their thoughtlessness or indulgence, permit themselves to administer to their children. The careless indifference of some sensible parents, we confess, has often filled us with astonishment. We see them pouring into the Stomachs of their children, the most indigestible substances, as if they had the digestion of an Ostrich. Before they have any indication of a tooth, they are permitted and encouraged to swallow meat. Candies are distributed as if they were the most legitimate species of food,- And, worst of all, any sort of fruit in every possible condition of greenness or decay is devoured without stint or scruple.

Irritation of the Stomach and

intestines is very often produced by the reprehensible but too common practice of overloading the infants stomach with food. Mothers are fearful that the child will suffer from the want of nourishment, and force into its stomach too much, and very often, very improper articles of food, which will not fail to produce irritation perhaps inflammation. Prof. Thomas relates a case where the child was exceedingly emaciated - nothing but skin and bone, although the nurse informed him that the patient took a larger amount of food than was usually taken by a healthy child of the same age. In this case the stomach and intestines became so irritated, that they almost

entirely ceased to exercise their functions,
the food passing through them without
undergoing any change. The child was
starving in the midst of plenty. On
diminishing the amount of food, and
giving no more than was actually re-
-quired the child rapidly regained its
former strength and health.

Another cause contributes to
increase the perils of children in the sum-
-mer, and that is exposure to draughts
of air, in clothing too thin and other-
-wise altogether insufficient. Fashion
is not sufficiently considered to enable
these delicate beings to take care of
themselves, nurses are forgetful, and
some mothers, alas, trust their most

precious treasures almost altogether to the care of others.

The process of Dentition is also a predisposing cause of the diseases. It is then that the system is irritable and strongly predisposed to any disease. Premature weaning or errors in diet, already described, may also be considered predisposing causes, and children fed by the Bottle or Spoon, and deprived of their mothers milk are more frequently and dangerously afflicted than those nourished at the breast.

The Prognoses in Cholera Infantum will depend in a great measure, upon our ability to remove the patient from the influence of the exciting cause, — which the removal from the crowded city, &c.

the pure fresh air of the country; as well as upon the time at which we commence the treatment. The disease is very readily controlled if the treatment is commenced at an early period in the disease.

In many cases, if it is possible to remove the patient from the City to the Country, recovery will take place without any other remediable means being used. But unfortunately, the Children of the poorer classes are those among which the majority of the cases occur, and they are not able to remove to the Country; hence the great mortality of the disease.

In some cases the disease is very rapid in its progress - death ensuing in a few hours; but these are rare, sufficient

time being in general afforded for the application of remedies. One of the most favorable signs is the return of the morbid discharges to their healthy condition. "The vomiting of curdled milk is popularly viewed as an unfavorable sign, but it is the reverse, as it indicates the continued possession of a degree of digestive power by the Stomach" The most alarming symptoms are those of Delirium, or Hydrocephalus in the advanced stage; but there is no condition of the disease so low as to forbid all hope.

The first and greatest indication in the treatment of Cholera Infantum is to remove the cause. This can be done by removing the patient from the

close and confined atmosphere of the City into the pure air of the Country; or if the parents of the child are prevented by circumstances from removing into the country, they can fulfill the same object in a measure, by keeping the apartment of the patient well ventilated, cool & clean, and by taking the child daily into the country, or to the most open and airy part of the City. This has often the very best effect, and in many cases no other Remedial means are required, the patient recovering so soon as the removal is affected.

The diet of the patient should be strictly attended to. If the child is young the best and only food should be

the mothers milk, or that of a healthy Wet=
=Nurse: The best substitute for this is fresh
cows milk diluted with water and sweetened.
The preparations of the different farinaceous
articles, such as Barley, Rice, Arrow=
=Root, Sago and Tapioca may also be used.
A Child should not be fed too much, nor too
often; but whatever quantity is given, should
be repeated at regular intervals, and not
whenever the Child is fretfull. If this
rule is not observed a morbid appetite
is very soon excited, and the foundation
laid for future disease. If it is observed
the child will soon learn to require food
only at regular periods, and the danger
of over distending the Stomach will be
avoided.

The dress should be light, but such as to preserve an equal temperature of the body, without oppressing the child. Attention should be directed to the mouth if there is cause to suppose irritation from teething; and if the Gums of the child are found to be swollen and painful they should be lanced.

The indications in the Medical treatment are, To check the vomiting - Remove the sources of irritation from the bowels - To promote the Hepatic secretions, and thereby promote the removal of the portal congestion, - And to check the excessive evacuations.

In cases where the vomiting is violent, and there is great irritability of the stomach, Rubefacients - such as Mustard mixed with

Rye meal — Bruised Mint chop'd in Brandy,
or the Spice Cataplasm may be employed,
applied to the Epigastrium, so as to slightly
irritate the surface. Lime water and
fresh milk mixed in equal proportions,
may be given in teaspoonfull doses repeated
every quarter or half hour. Or Mint Water
and Fennel-Seed tea, or Camphorated Tincture
of Opium may be given. Dr. Condie recom-
=mends minute doses of Calomel, from a
sixth to a quarter of a grain, rubbed up
with loaf sugar and sprinkled upon the
tongue; this, in many cases, he has found
to quiet the Stomach and allay the vomiting.
Or, if this does not succeed, he recommends
a few drops of Spirits of Turpentine, or of a
solution of Camphor in Sulph. Æther, repeated

at short intervils. If the Stomach is tumid and tender to the touch, Leeches may be applied to the Epigastrium, followed by light emollient Cataplasms or warm fomentations; or if the head is hot, with a wild and injected state of the eyes, Leeches may be applied to the temples or behind the ears

When the Stomach becomes relentive, Medecines may be given to fulfill the Second indication - To remove sources of irritation from the Stomach. For this purpose the best remedy is Calomel. Wood recommends it in doses of 2 grains for a child 2 years old, repeated every 2, 4 or 6 hours until evidence of its operation appears in the evacuations. Others recommend an 8 or 10 grain dose, and

by this means promote the Hepatic secretions and clear out the bowels. The Calomel may be administered in Syrup, or on the surface of a teaspoonful of Milk or simply introduced into the mouth of the Child with a little powdered Sugar. Another mode of administering Calomel is in doses of from a Sixteenth to a quarter of a grain repeated, so that about 2 grains may be given during the 24 hours.

When the complaint has the character of Diarrhoea from the commencement or assumes that character during its progress, the small doses of Calomel may be combined with Opium and Ipecac. which quiets the irritability

and gives a direction to the Skin; and when the indication is less to promote than to check the discharge, the Mercurial pile combined with some of the Cretaceous infusions, or with Dover's powders will be found to be efficacious.

If the discharges continue and are exhausting to the patient, it becomes necessary to attempt to arrest them by Astringents, either Vegitable or Mineral – Of the former, Kino, Catechu or Extract of Krameria may be added to the Chalk Mixture; Of the latter the Acetate of Lead has been found to be very useful. Dr. Condie gives the following prescription, which he has found exceedingly useful;

R/. Calomel grs iij Cretae ppt. grs xxxij Sacchar. Pur. ii grs xij Pulv. Ipecac. g iij – Ft. chart No. xij one every 3 hours.

An
Inaugural Dissertation
on Inflammation
Submitted to the examination
of the
Hon'ble Regents and Faculty of Physic
of the
University of Maryland
for the
Degree of Doctor of Medicine
by
José Cristobal Mata
of
Ecuador.
1858

The soul never thinks better than when it is undisturbed by pain: but being the soul and body in such close relation, the sufferings of one are felt by the other. Therefore I propose myself to treat of relieving the soul by relieving the body and only when this is afflicted with a certain disease, not the soul to relieve the body.

Many and innumerable are the diseases to which the human frame is liable, and therefore I shall not speak of all of them: but of some one in particular. The healing art has been practised from the most immemorial. The Chinese relate that their Emperor Hoang ti was reigned 2698 years before Christ

tian era, was the inventor of Medi-
-cine. And among the Egyptian, at the
death of Jacob we find that the na-
me of physician is mentioned, which
proves that the healing art was then
practiced; we also find in the
writings of Moses points relating to
Medicine. Melampus is the first
of the Greeks who performed extraor-
dinary Cures And Esculapius was
the first Surgeon in that nation
who immortalized himself by his
wonderful operation but I am sor-
ry to say that this great surgeon
of the age was destroyed by Jupi-
ter at the request of Pluto and
therefore on this account the chil-
drens of Esculapius abstain from
performing prodigies
Man provides himself with

the means indispensable for life.
and as he does this; he must also
look for the preservation of this same
life; here we see that necessity
itself has forced man to seek the
invention of Medicine and whose
utility is not even denied by the
detractors of the art.
Medicine has been divided in ma
ny branches; and of one of the di
seases pertaining to one of this branch
es I will try to speak.
Surgery is that part of the healing
art which relates to external diseases.
From this part of the art I have cho
sen what is commonly known by
the name of inflammation.
Inflammation in latin is flamatio
in greek Φλεγμασια or Φλογοσις is a sub
ject which has excited many discus

sions among physicians. In fact the theory of inflammation is a purely physiological and pathological study and however interesting its investigations may be, yet its discussion of this subject belongs rather to the domain of general pathology than to that of practical surgery, in connection with which it cannot consistently be entered upon here.

If we go back to the origin of disease we shall find that the words dynamia, plegia and inflammation have been employed on account of the similitude which has been thought to exist between the effects of this disease and those of calorie. If any part of the body is exposed at a moderate distance from the fire we feel at first an agreeable warmth (in winter time) then the sensation

grows painful and the part begins to redden. Next we feel a keen sensation of burning the colour becomes of a deeper red and tumefaction begins. Later the skin becomes covered with phlyctaena or bullae filled with serosity. the cellular subcutaneous tissue now feels the action of the caloric. Finally mortification attacks the superficial layer of the tissues and advances deeper and deeper until it attacks the deep-seated layers. But if the action of caloric ceases before it causes the mortification, then the affected part recovers its normal state with or without separation with or without any loss of substance according to the severity of the burn. Now the same phenomenal series may be

provoked in the organism by other causes, either internal or external and to the Symptoms heat, pain swelling, and redness the name of inflammation was given.

Inflammation is a desease assuming such an infinite variety of forms, that it is scarcely possible to give a strictly correct and scientific definition of it. Peter Frank proposed to define it in the following words and it is supposed to be the most comprehensive and accurate which has hitherto appeared, "Calor partis tensio rubor vel durities acuta ut plurimum cum sensu doloris fixi, nunc ardentis nunc pungentis, pulsantis nunc gravitatis aliquando nullo, cum colore vivido nunc profundius rubro: saepissime cum febre pulsu frequentiori, tenso

forti ac duro, saepe contracto ac parvo aliquando naturali ac tumoris evidenti, aut in suppurationem, aut in gangrenam nisa dicitur inflammatio.
However some of these signs may be wanting - and yet inflammation exists.
Without going into details of the different definitions that have been given for inflammation we may define it to be: A perversion of the functions of nutrition & secretion or a morbid exercise of the circulation in the affected part.
5th Inflammation is characterized by four local symptoms: redness, pain heat and swelling with impaired function of the inflamed part - each of these symptoms requires a few observations in detail. Inflam

mation is modified by the state of the constitution of the person afflicted with the disease, also by the causes which produce this morbid action and tissue or organ affected.

Phlegmon is inflammation of the areolar tissue; and may be taken as the type of the whole.

Pain is one of the symptoms of inflammation and prevents the patient from moving the inflamed part.

The pain is of different kinds usually pruriginous pricking and burning in the skin; acute and shooting in serous membranes; dull and throbbing in cellular and parenchymatous organs; lancinating in cancer and malignant tumours; obtuse and heavy in glands and bones

A sense of weight and tension generally indicates a tendency to suppuration; and pain usually subsides on the formation of matter, if it has a free issue.

Pain of inflammation may be attributed partly to a stretching of the nerves by the distended blood vessels, partly to a disorder of sensation, accompanying the disorder of nutrition and functions. As a general rule, it may be observed that the intensity of the pain is in the inverse ratio of the vitality of the part affected; and it is easily understood this proposition if we take in consideration that when any tissue presents a greater resistance to the stretching, or the pressure upon the nerves is not

and as we have already said that pressure upon the nerves constitute pain; the greater the pressure the greater the pain.

Heat. although it appears that the temperature of the affected part is greatly increased. Mr Hunter has however remarked that it does not increase above that of the left ventricle of the heart: he excited artificially inflammation in the chest; the abdomen, the rectum and the vagina, without being able to discover any great increase of temperature the thermometer rising only to 101° in a case however, it was as high as 104° in the abdomen: and in case of Hydrocele the heat of the testicle vaginalis, which was 92° at the time of performing the usual [illegible]

tion, rose to 98° after inflammation had come on, In numerous experiments made after this at Leeds it has been found that the thermometer has risen as high as 107° Fahrenheit. It is also well known that the general temperature of the body may be very considerably increased in various states of disease, not always inflammatory. In many cases the sensation of the patient is that of burning in the part though the actual rise in temperature may be trifling. This is owing to the exalted sensibility of the nerves. The rise of the temperature in the affected part is supposed to be a mere effect of the increased afflux of blood to the part and also to the rapid oxydation of the tissues, which will of course it

produce a greater evolution of heat
We can scarcely expect a satisfac
tory explanation of the increase of heat
as long as there are points in the
theory of animal heat that remain
involved in obscurity.
Redness - this prenenatural colour
is manifestly owing to the increase
quantity of blood in the deseased part
distending the vessels, and penetra
ting into the minute vascular rami
fications which previously conveyed
only colourless blood. In some low
or asthenic forms of the disease the
coloring matter of the blood appears
to undergo changes that allow its
ready transudation through the walls
of the vessels; and in more chronic
cases the vascularisation of the pro
ducts of inflammation tends to render it

more permanent the intensity is very variable. Some fibrous tissues, such as tendons and ligaments exhibit very little redness when inflamed, showing but few vessels. This colour varies according to the part which it affects, it may be bright or florid in vascular structures; but in general, redness may assume various tints, from a bright red to a dark livid purple with every intermediate shade; it is usually greatest at one point decreasing gradually as it extends until it becomes imperceptible or sometimes terminating abruptly as in some forms of specific inflammation. Swelling is produced in the first stage of inflammation by the greater influx of blood, at the later pe-

it is increased by the effusion of se-
rum, the extravasation of blood, and
the deposition of coagulable lymph or
pus. The swelling varies greatly in
different localities. It is greatest in
those which are of a loose texture, and
least in those that are limited by
ser. The swelling of chronic inflam-
mation may terminate in permanent
hypertrophy, or thickening of the af-
fected parts, partly in consequence
of persistent dilatation of the vas-
cular system of the part, but chiefly
from the deposition of plastic mat-
ter in the substance of the part.
Excessive swelling will relieve in a
part, without much heat or pain,
is very likely to terminate in gan-
grene.
Swelling may be first or most

pulsative or not and therefore sometimes is not easy to ascertain the existence and exact seat of swellings of the internal organs, particularly in the abdomen. A solid tumour sometimes pulsates in consequence of being in contact with the aorta; this must not be mistaken for aneurism.

The four principal components of the blood are fibrin albumen corpuscles an Saline mater.

Fibrin, albumen & salts; in solution form in Liquor Sanguinis.

The red corpuscles are suspended in the Liquor Sanguinis.

In coagulated blood they are thus combined:

Fibrin and red corpuscles forming the crussamentum or clot

Albumen and salts; remaining in

solution; forming serum.

Genuine inflammation is never established instantaneously, but is always preceded by certain deviations from healthy action which constitute preliminary stages. We conceive, therefore, with Waltenbrunner that the marked changes which lead to inflammation may be divided into the three following periods.

1st Period of incubation is the interval between the application of a stimulant and the development of the regular congestive or inflammatory process. The duration of this period is very variable in its signs and duration.

2d Period of Congestion characterized first by an increased activity of the vessels and influx of blood. Various

degrees of turgescence, swelling, heat, redness and pain — interruption of the healthy functions of the part. The circulation although slow there is not yet change of structure in the part: nor formation of new product, and the affection may subside by critical secretions and hemorrhage.

3. The period of inflammation which is characterized by an entirely new order of morbid changes. The circulation is completely interrupted — the blood coagulates clogs the vessels and stagnates in several points of the inflamed part — the coats of the vessels are deseased — some of the vessels are ruptured and there is extravasation of blood or coagulable lymph in the parenchyma — lymph and serum are also exuded and the deposition

of these new products leads to a decided change of structure — The healthy functions of the part are completely suspended and some of its constituents such as the pigmentum and adipose matter are sometimes absorbed — The vessels are also mechanically injured by the blood forcing itself a passage through the delicate areola of the cellular texture. All these changes are attended with a considerable increase of the heat, redness and pain.

Inflammatory appearances of the blood. There is it may be said a general inflammatory condition of the fluids of the animal economy and this is especially true with regard to the blood.

When blood is drawn from the vein

dual affected with an inflammatory disease sufficiently severe to disturb the constitution, the nature and appearance of the coagulum differ very materially from those of healthy blood; it contains larger proportion of fibrine than healthy blood; and the fibrine at the top of the coagulum forms a layer of a yellowish white or greenish colour, varying in thickness from less than a line, two one or two inches; this layer has received the name of size buff or buffy coat the surface of the coagulum is also frequently contracted puckered up at the edges and concave in the centre the blood is then said to be cupped, and this appearance varies, being proportionate to the strength of the patient.

When the buffy coat is soft the coagulum is less cupped softer and larger adhere

to the bottom of the vessel and contains
pure serum.

In cases of very acute inflammation
the blood coagulates rapidly. The buffy
coat is thick compact; the form of the clot
takes the coagulum

In cases of moderate inflammation the
buffy coat is not so thick there is
little or no cupping & the coagulum is less
retracted and floats in the yellowish
serum.

In sub-acute inflammation the coagu-
lum may be slightly buffed, but more
generally presents on its surface a layer
of a bright red colour and one or two
lines in thickness

The buffy coat and cupped-like appear-
ance observed in the arterial blood dur-
ing inflammation

It is important to notice that the blood

presents all the inflammatory appearances just described without the actual existence of any inflammation. But as a general rule the buffy coat may be considered as a correct indication either of the actual existence of inflammation or of a strong predisposition to it.

Circumstances which modify the buffy coat: a narrow opening of the vein by receiving the blood in a flat vessel, especially if cold. It is also prevented by letting the blood fall into the vessel from a height of three or four feet or by keeping the blood for some time in state by agitation or by adding a solution of muriate of soda.

The formation of the buffy is on the contrary favored by making the blood flow from the vein in a full stream and by receiving it in a deep vessel

The cause of the buffy coat in inflammation is presumed to be the increased quantity of fibrine. The normal quantity of fibrine in healthy blood on the average in 1000 parts has been found to be 3 parts; and the average augmentation of fibrine in inflammation is estimated to vary from 5 to 10 parts in a 1000.

Constitutional disturbance induced by inflammation. The severity of the constitutional symptoms depends on the intensity and extent of the disease. Whenever it is very intense exists a disturbance in the functions of the heart brain and stomach characterized by a series of morbid phenomena which have received the name of symptomatic or sympathetic fever or pyrexia. This fever appears to result

primarily from deterioration of the blood by the local inflammation and from consequent reaction on the circulatory and nervous system. The constitutional symptoms may be divided. 1st into inflammatory reaction; 2d nervous reaction and 3d, the state of direct prostration and rapid sinking without reaction. The 1st period is sometimes characterized by a certain degree of constitutional derangement: the symptoms of this derangement are often unnoticed both by the patient and the practitioner. There may be a feeling of general uneasiness and lassitude, pain in the limbs disturbed sleep sometimes headach, depression of spirits, slight alternation of chill and heat a decrease of appetite a bitter taste [illegible]

and furred tongue, a tendency to constipation and turbid urine. After the period which has been described, and which symptoms may be considered as those of incubation we pass to describe those which belong to local inflammation and followed by a degree of constitutional disturbance. The patient is seized with rigor, nausea and vomiting; the face is pale, the skin cold, rough the pulse small & frequent to this depression succeeds a general reaction characterized by a dry burning heat of the skin headach, flushing of the face, pain in the loins restlessness, great general anxiety, soreness of the whole body and sometimes delirium. The pulse is full hard and frequent the breathing hurried; the se-

cretions become diminished and altered: the tongue is furred, dry and red especially into the edges and point there is loss of appetite and great thirst the bowels are confined; the urine is scanty and high-coloured but it remains clear and emits a strong animal smell. In all inflammatory Affections there are also daily variations in the acuteness of the symptoms.

2. There is a form of constitution directly opposed to the sanguineous: it is chiefly characterized by weakness and irritability of the nervous system and called the nervous temperament. The constitutional symptoms in this temperament are characterized by by disturbance in the nervous system and the fever generally assumes a nervous, typhoid or ataxic type

3°. The third modification of the constitutional symptoms induced by local inflammation in the irritable temperament is that of sinking without reaction. The symptoms of this sinking state are: A degree of vertigo followed more or less quickly by gradual loss of consciousness, sometimes this is only partial; there being a tendency to drowsiness, from which the patient can be momentarily roused. is also affected with a sensation of shuddering; a considerable degree of pallor contraction and coldness of the surface; the pupils are dilated the breathing is short; the pulse is slow feeble or indistinct; the tongue and [illegible] dryed the stomach is irritable. The more formidable symptoms [illegible] their appearance; the pallidness; collapse

of the Countenance and lividity of the surface increase the breathing becomes more oppressed and is attended with a peculiar crepitation noise there is restlessness jactitation and delirium followed by Coma convulsions, relaxation of the Sphincters and stertorous breathing ending soon in death. Inflammation has been divided into Acute and Chronic, also into Common and Specific. An intermediate degree of inflammation between the acute and chronic has been termed Subacute. The term acute is generally used to denote that the inflammatory process is both active and of short duration. Chronic inflammation implies the absence of acuteness or activity, and a tendency to a long duration

Common or healthy inflammation is that which usually follows the action of mechanical or chemical causes of which phlegmon may be taken as a general type.

Specific inflammation is distinguished by certain peculiarities in its symptoms & progress which are to be attributed entirely to a special morbid diathesis or to the specific nature of the exciting cause. Inflammation of the urethra from a mechanical cause is a common inflammation. the inflammation from gonorrhœa is a specific inflammation. the principal varieties of specific inflammation are the scrofulous, syphilitic, rheumatic, gouty, erysipelatous. the gangrenous inflammation produced by morbid poisons is also a constitutional cause. gout is an

lignant descriptions.
Terminations or effects of Inflammation — The mode in which inflammation terminates depends on several circumstances, more especially the nature of the exciting cause and the peculiar constitution of the individual, and also the curative measures adopted.
There are various ways in which inflammation may terminate: these are Resolution Metastasis. Effusion Suppuration Mortification Ulceration, Induration Softening and Hemorrhage
Treatment of inflammation.
The principal object in the treatment of inflammation is to bring about resolution if possible and if this cannot be accomplished then

we must turn our attention to alleviate Symptoms and to conduct it to a favorable result. In whatever treatment we may think proper to rely upon. Our first object must be to remove the cause to obviate those phenomena which constitute inflammation and also to relieve the constitutional Symptoms.

As we have said already we must seek the cause whether it be foreign Substance poison etc etc. The part must also be protected from irritants as air light, and in general every circumstance which contributes to keep up local or general excitement.

Prompt measures is necessary when any prominent Symptom exists

whether local or constitutional.
The remedies by which the symptoms
of inflammation are removed have
been termed antiphlogistic treatment
that is remedies against inflammation.
The nature of inflammation shows
at once the necessity of blood-letting.
There are particular symptoms for
which our indication is to the fur
ther loss of blood may be taken. An-
other symptoms requiring considera-
tion as to the propriety of repeating
blood letting is pain. The pulse is from
the remotest antiquity furnished an
indication of the propriety of blood letting
and of the necessity for its repetition.
also the appearance of blood. It is
almost unnecessary to state that the
quantity of blood abstracted in inflam-
mation must with other circumstances

have reference to the age and constitution of the individual.

With regard to the mode of abstraction blood locally, superficial is preferable to leeching. Of the powerful antiphlogistic measure in the treatment of inflammation is the exhibition of purgative medicines.

Mercury is a remedy of considerable power in arresting inflammation, the beneficial effect of this medicine is better exemplified in the treatment of iritis. The mercurial plan is almost invariable when employed early in the disease.

Many physicians consider that in delirium inflammation of the brain after blood letting, is followed by the most happy results. Liberal doses of opium seems to have the excellent

effects; when inflammation presents syphilitic symptoms in broken up constitutions. Pain may sometimes render the exhibition of opium necessary.

Digitalis and Calchicum have also been recommended

Among the remedies resorted to with the view of resolving inflammation is Antimony and since its introduction, it has enjoyed a very high reputation.

In external inflammation, the application of cold lotions forms an essential part, in the antiphlogistic treatment - Acetate of lead or lotions of acetate of ammonia, alcohol & water &c are highly recommended. The partial application of heat in the form of fomentation, or the warm

bath, are often powerful means of reducing inflammation.
Counter irritants are often employed with advantage.
Febrifuge remedies ought not to be neglected as well as the mercurials followed by Saline purgatives.
Repose and diet are points of great interest in the treatment of Inflammation
In few words we can say that; nine tenths of the Materia Medica closed together are suited to Combat inflammation such as tartar-emetic bark mercurials and Saline purgatives; preparations of Iron and all kinds of bitters.

An Inaugural Dissertation

on the

Prophylaxis of Phthisis

Submitted to the Examination

of the

Provost, Regents, and Faculty of Physic

of the

University of Maryland,

for the

Degree of Doctor of Medicine

by

Samuel C. Chew of Maryland

MDCCCLVIII.

– optimus

Fallere et effugere est triumphus.

Although Tubercular Consumption has been known to the medical profession from the first existence of Medicine as a Science, yet its Essential Cause remains still not fully understood. There are, it is true, many Conditions existing in the Animal Economy which are with reason believed to favor or prevent the formation of tubercle, & many External Circumstances are known to exert an influence over the disease. But as to the essential nature of the original Cause of tubercular degeneration — that Cause to which all the Phenomena of the disease hold the relation of Effects, — we are still ignorant. All the light of modern Pathology has failed to remove the obscurity in which this subject is involved. It is still a quæstio vexata; — the researches of the microscopist and the Chemist being alike fruitless of satisfactory results. The subject has given rise to

endless speculation; some of the older pathologists maintained that the secret fault lies in the impaired vital powers: others assigned the defective nutritive functions all guilty of the whole trouble; & more recently, by some Eminent authorities – Sir James Clark and Dr. Bennett, the blood has been charged with being first "tracked Corruptibly".

Until the Primal Cause of Phthisis is successfully demonstrated, the treatment Employed with the view of Curing the disease will be unsatisfactory, and in most Cases futile. The various agents used, – as Cod-liver oil – Iodine – Digitalis &c. &c. exercise in Established Phthisis only against the Effects of the disease, and serve but to prolong the struggle against it. In view of this fact it is not strange that so much attention has been bestowed by the profession upon the Prophylactic management of Tubercular

in which the tuberculous cachexia does not exist. The subject well deserves as careful attention and study as any other with which the science is occupied. Phthisis is known to prevail far more extensively among the civilized portions of mankind than elsewhere; in those countries - that is - in which medicine has attained its highest perfection. It is often a fair and open foe, giving in very many cases unmistakable signals of its approach before its immediate attack.

Of these the known hereditary nature of the disease is one of the most important. It is frequently the only circumstance that could excite suspicion of the lurking danger and furnishes the earliest warning of the necessity of prophylactic measures. Probably the strongest tendency of this kind of the disease might be eventually overcome, if [illegible]

hygienic treatment were adopted from the birth of the inheritor of the malady, and continued during life; so that in a few generations the stock of the disease might be entirely eradicated from families. The characteristics of the Scrofulous taint, furnishing a more certain guide, will however be almost invariably present to a greater or less extent: their prognostic value being in proportion to their number and gravity. The most prominent of these are discernable in the form of the body, - in the features and aspect, - in the state of the nutritive and circulatory functions, - and in the physical and mental habits. Want of due bodily development, and symmetry often betrays the Constitutional fault, the limbs being weak and ill-shapen, the shoulders drooping, and the breast sunken and concave. The peculiarities observable in the features are the pearly

whiteness of the tunicae albuginiae – large pupils – long eyelashes, and thickness and projection of the upper lip. The defects in the nutritive functions are shown by irregularity of the appetite, which is sometimes voracious, and again greatly impaired, – by the softness and relaxation of the adipose and cellular tissues, and by the atony of the muscular system. The changes in the blood are said to be deficiency of the globuline and haematine from the beginning, with at first redundancy of the albumen, which at a later period likewise diminishes.

Weakness of the bodily frame is in very many cases associated with a corresponding deficiency of the mental powers. General imbecility of the whole moral, mental, and physical nature is often a prominent feature of this form

-arity of constitution. The rule is however by no means an invariable one. Nature would some-times appear to be desirous of compensating for the evils she has inflicted upon the body, by enlarging and ennobling the mind. Precocity of intellect is not unfrequently observed; and some by ~~[illegible]~~ contending against the inherent torpor of their natures, & the countless infirmities entailed upon them – 'striving to keep up a frail and feverish being'; have achieved high fame and accomplished great good.

'Who doomed to walk in company with Pain,
And Fear & Sorrow – miserable train
Turned their necessity to glorious gain.
In face of these could exercise a power
Which is our human natures highest dower;
Control them and subdue, transmute, bereave
Of their bad influence, and their good receive.

Two of the most illustrious men in the history of literature - Pope and Johnson - inherited the Scrofulous temperament, and yet their labors - of the one in the field of poetry, and of the other in that of prose were gigantic.

I shall consider the treatment of those Cases in which Phthisis - though impending - does not seem as yet to have actually begun its work. Even when the disease has given unmistakable signs of its presence, proper hygienic means if instituted early would doubtless effect much good, by interrupting or retarding its Course, & thus prolonging the patients life in a great degree of comfort. But as such treatment cannot be regarded as preventive, it need not be noticed here.

The great object to be aimed at in the effort to avert the disease is the early and systematic employment of all means which tend to sustain and improve the general health. These means consisting in proper Food, Clothing, Ventilation - Light, - Exercise, and Change of Climate; it will be necessary to consider separately.

II With regard to the curative management of Cases in which Phthisis is threatened, different opinions have been held. Some under the belief that the malady owes its origin to defective nourishment have advocated the employment of excessively nutritious, or stimulant diet from the earliest stage of the, and a course would however manifestly

tend to the developement of any latent germs of the disease, by overtasking the digestive organs which are as yet delicate and impressible, causing derangement of the secretions, and leading eventually to those physical conditions, under which tuberculosis is known to flourish best.

Corpora impura, quo plus nutries, eo magis laedis. is the proper maxim. An error in the opposite direction would be equally hurtful by producing such a feeble condition of the vital forces, as would render them unable to react healthfully against the deleterious influences which foster the disease. No absolute rules upon the subject can be laid down: the quantity and quality of the food should be propor-

tioned to age and strength, and regulated by constant attention to the state of the digestive organs.

It has been asserted that the exclusive, or excessive use of animal food produced a predisposition to Struma in some one or other of its various forms; and from this belief some have advocated the adoption of a strict Pythagorean regimen by all who are of the strumous diathesis. There is reason to believe that Scrofula, if not actually generated, is at least aggravated by the constant use of pork as an article of diet;— and it is a curious fact that nearly all the animals interdicted as unclean by the Mosaic Code are still regarded as unfit for food, except Swine. The Jewish race however

is by no means exempt from Scrupula, tho' they still entertain a holy horror of the unclean beast.

On the other hand no protection against the disease seems to be furnished to either individuals or races by the use of vegetable aliment alone;— since Phthisis is known to prevail among the Hindoos, who are forbidden by their creed to touch animal food of any kind.

The object of a dietetic regimen should be to furnish the largest amount of nutriment to the patient, at the least possible expense to his digestive apparatus, and this object would seem to be accomplished best by a due admixture of animal and vegetable diet.

The clothing worn by those who are the

prone to Consumption, should be of such a nature as will insure a uniform temperature of the Surface of the body, - and thus prevent as far as possible the dangers arising from the vicissitudes of Climate.

Much has been written upon the influence of certain articles of dress especially of Stays on the production of Phthisis. Some is disposed to regard the question, whether they do produce any injurious effects, as problematical. The majority of his female Patients laboring under Phthisis in the Hospital of La Pitié had not assumed the use of Stays until after their Growth was established, hence he argues that little or no influence on the form and dimensions of the Chest could be exercised by the pressure which they produce; and that the disease ~~it~~ it

thing one independent of their action. That surely whatever would interfere with the healthy action of the lungs at any time of life, - whether by preventing their development in early youth, or by embarrassing the motions of the thorax at a later period, could not fail to impair the functions of the respiratory and digestive organs, in which the seeds of phthisis are first sown; - and thus to predispose strongly to the disease. The use of all articles of dress which produce undue Constriction of the chest should therefore be abandoned or never assumed by all who inherit any tendency to phthisis.

The benefits of Exercise in the open air are in a great measure due to the Constant supply of fresh air which the lungs are receiving;

-- an increased demand for it being occasioned by the more rapid Carbonization of the blood during bodily exertion. Unless however proper attention is bestowed upon the ventilation of the sleeping apartments, the advantages gained by day, will be more than counterbalanced by the evils accruing from the neglect during the night. The influence of impure air in weakening the vital powers, and deteriorating the general health, is well known. The Communication with the external air afforded by a Chimney will effect a sufficiently free ventilation of sleeping apartments during the night if the rooms be large, and the ceiling high pitched. The windows should be opened every day, in order to produce an entire Change of the air, & to procure the expulsion of all atmospheric impurities.

There can be no doubt that Light a still more subtile fluid than the atmosphere — exerts an influence upon the human body additional to its special stimulation of the optic nerve. Its action, which is probably of an intricate Chemical nature, is certainly of the highest utility as a stimulus in preserving and maintaining health; And although the body becomes so accustomed to its Constant operation, that its presence is not felt, yet the privation of its genial influence is speedily and strikingly marked. Plants which are purposely Excluded from the action of the Light, as Celery and Lettuce show the effects of its absence in their blanched, and pale appearance. An analogous result of the same Cause is seen in men — in the

'Slaves of the dark and dirty mine'

who pass a large portion of their lives in entire seclusion from the "virtuous touch
of the anti-chemic Sun".
That the beneficial influence of light upon the system may be exerted as fully as possible, the window blinds in the sleeping apartments of those who are the subjects of prophylactic treatment, should be left open at all times, that the earliest rays of the Sun may find access, and dispel the somnolence and inactivity which darkness so often occasions, and which by producing enervation of the vital powers, may act as Causes of phthisis.

The most important of all the means to be employed for averting Consumption is bodily Exercise to be performed judiciously in quality and amount to the

various Conditions existing in different Cases.
It would be of Course exceedingly imprudent suddenly to subject one who inherits a strong predisposition to the malady, to the dangers of prolonged and violent Exercise. But by beginning with such an amount as is suited to the strength and hardihood of the patient, and increasing it as the Capability of endurance is augmented, very great good may be accomplished. All the organs will be improved in the performance of their functions, - the muscular System will gain strength, and such a healthful vigor will be imparted to the whole frame, as will enable it to resist the action of the innate Causes of the disease, so that in time those Causes will cease to exist.
It would be impossible, and unnecessary if possible, to Enumerate the Countless modes of Exercise,

which may be adopted, as they may be infinitely diversified according to the Character of the Case and inclination of the Patient. Much of the benefit that is brought ~~for~~ will depend upon a judicious selection of such Employments as will interest the mind at the same time that they occupy the body. The relation of mind and body to each other is such, that whatever increases the flow of animal Spirits, exalts the activity of the Corporeal functions, and on the other hand all agencies which depress the mind conduce to an unhealthy state of the body. The great Poet of nature observes this fact

"moody and dull melancholy
(Kinsman to grim and Comfortless despair)
And at her heels a huge infectious troop
Of pale distemperatures and foes to life"

Walking is said to be the form of Exercise, which responds best to the demands of Nature; but without some object to which the mind is directed as obtainable by the walk, what is intended to be a beneficial measure, will prove an irksome task. To those who have the 'oculus eruditus', a peripatetic Course will afford facilities for the improvement of mind and body together in a higher degree than almost any other mode of Exercise.

An essential pre-requisite however to deriving pleasure from the Contemplation of Nature, is the faculty of observing, without which the running brooks offer no books, — Stones preach no sermons, — and trees are tongueless.

The respiratory organs themselves, being the point at which the disease makes its most impetuous attack, should be fortified against it with especial Care.

All means which tend to develope and strengthen the lungs, and the muscles of respiration should be assiduously employed. There are certain modes of exercise which appeal directly to the respiratory muscles, as the use of the dumb bells – the art of fencing, and the time honored game of the Quoit. The dimensions of a narrow & contracted Chest may in a short time be remarkably increased by the practice of taking full & prolonged inspirations so as to ensure the complete expansion of the lungs.
The exercise of the voice in the open air, and reading aloud within doors, have a like salutary effect.
It has been asserted that no great orator has ever perished by pulmonary disease. Cicero in early life manifested a tendency to Phthisis which is said to have disappeared after he had engaged in the occupations of an advocate and statesman: and

Cuvier ascribed his deliverance from Consumption to the exercise of his duties as a public lecturer.

II. Scarcely any measure promises such good results in the prophylactic treatment of Phthisis, as change of Climate. It was once thought that the influence of a warm Climate was adequate to the Cure of the disease; but a more intimate acquaintance with its nature, and the results of a larger experience, have shown that such an opinion is erroneous. There is good reason to believe that Coldness of Climate is never directly concerned in the generation of scrofulous disease. M. Boudin in his work on Medical Geography lately published states that "there are Countries where Phthisis is unknown as for instance, Iceland; — no Phthisical patients are ever seen in Finmark; — and the Swedish

Physicians affirm that Consumption becomes less
Common as one proceed northward: there is in fact
such a thing as a preventing action of the Polar re-
gions"

By some writers the extensive prevalence of
Phthisis in the North temperate Zone is ascribed, ma-
inly to the causes which arise from the requirements
of civilization. The former denizens of the same por-
tion of the globe were exempt from the ravages of
the disease. Dr Rush states that phthisis was
formerly entirely unknown among the Indians of N.
America; — and that it is still of very rare occu-
rence among the early settlers of any portion of our
western domain, over whom the habits and fashions
of civilized life have not yet got control.

The severity of climate is not of itself capable
of producing the disease. To the benefits sought in

under milder skies are not due to any intrinsic antidotal virtues of a warm atmosphere; but are to be attributed to uniformity of temperature, and to the constancy with which hygienic measures may be employed throughout the whole year.

The lungs and skin perform their functions in an inverse ratio to each other in respect to activity: when from any cause the action of the skin is diminished, additional duty devolves upon the lungs, & vice versâ. Thus is explained the injurious action of a climate subject to great vicissitudes of temperature. When the lungs are in a sound condition they are able to perform without inconvenience the additional labor that is imposed upon them; but such excessive exertion cannot but be injurious, when they are diseased or are prone to disease.

When change of Climate has been decided on, the most important inquiry that suggests itself is as to the abode that should be selected. The choice must be made with reference to the conditions which each case presents; — no one spot being suited to all the forms which the tuberculous diathesis assumes.

The places most commonly selected are some portions of the South of France, & Italy; - Madeira - some of the W. India islands; and within the limits of our own Country, the southern part of Florida, & other regions on our Gulf Coast.

Different cities in Italy & France within the same degrees of latitude differ very in temperature exceedingly according to their proximity to the Mediterranean. Sir Jas. Clark affirms that the Climate of Nice though strongly inimical from local causes to Cases complicated with dyspepsia, is admirably well ad-

apted to the necessities of relaxed and debilitated constitutions, from the sea breezes that constantly prevail there. On the other hand, if there exist any morbid sensibility of them winds he advises that Rome or Pisa should be chosen in preference to Nice. The climate which he judges to be best suited to Consumptive Patients generally, is that of Madeira. The temperature of the island, as shown by Statistics is more equable throughout the year than that of any other region known; — its winters being milder, and its Summer heats more moderate. In February, the coldest month the average temperature is 58°.50; — in August, the hottest it is 73°.

One advantage that this island possesses over the shores of the Mediterranean, is that the patient can be side there during the whole year; whereas in Italy the Summer is known by experience to be very fa-

nicious to Consumptive invalids.
In point of salubrity of Climate the Canary islands are entitled to rank next to Madeira. Their mean temperature is higher, but the excess of heat is not so equally distributed over the whole year, and the summers being much warmer than those of Madeira render it a less desirable abode.

The Bahamas and Bermudas have had considerable reputation as asylums from Consumption, but from the character of their Climates they are not likely to afford any real benefit. The former group is said to be subject to great and sudden changes of temperature from its vicinity to the N. American Continent; and "the still vexed Bermoothes" seated in the tempestuous western Atlantic is visited by high winds during the

winter season; and as the islands lie prone upon the sea, unprotected by mountainous elevations, they are hot and arid in summer.

The most eligible places in the southern part of United States are St. Augustine, and Tampa Bay, where although storms of wind are of not unfrequent occurrence, there are yet few days in which patients are debarred from the benefits of exercise in the open air.

Whatever residence be chosen, it must be borne in mind that no good results can follow from the change in itself. The patient must not repose too much confidence in the inviolability of the sanctuary to which he has betaken himself; but must employ all the means in his power to strengthen himself against the inroads of the disease by which he is threatened. The precautions of prudence that were adopted at

home, he must closely adhere to in his new abode.
He must endeavor to mitigate as far as possible
the evils of captivation by abstracting his thoughts
from the cares and disquietudes of life. And
so by living temperately, he may hope to live long
in the home of his adoption

An

Inaugural Dissertation

on Coritis

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by

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of

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Dysentery, is inflamation of the mucous membrane of the large intestines; yet, it is not essential for the whole of that membrane to be inflamed to produce the disease, for we have well marked symptoms of dysentery, in many cases, in which, after death, we find that the inflamation has not extended beyond the rectum and descending colon it has indeed been confined to the rectum alone, as when the disease is produced by Hemorrhoids, and commonly called "Bloody Flux", when Blood is discharged.

The characteristic symptoms of the disease, are griping pains in the abdomen, followed by frequent evacu-

=ations of bloody or mucous stools, com=
=bined with great straining and tenesmus,
but there is another disease with which
dysentery may be confounded, if we do not
thoroughly understand its symptoms;
that disease is diarrhoea in which we find
similar symptoms, but they are not so com=
=plicated with those of dysentery as to pre=
=clude a clear diagnosis between them;
we may find the griping pains in both
diseases, accompanyed by loose and frequent
evacuations, but in diarrhoea the stools
are fecal and of a watery consistence and
in dysentery there is a retention of the natural
feces, or it may be expelled frequently in small
hard, separate lumps; — in diarrhoea we may
have tenesmus and discharges of glary mucus

some times tinged with blood, but these symp-
-toms are not necessarily present; while in dys-
-entery they are constant symptoms and easily
noticed. We may have dysentery commencing
with diarrhoea; indeed some times the worst
cases we have to treat commence with it, for
when the first or upper portion of the large
intestine is the seat of the inflamation, we
find the evacuations watery and mixed with
blood and slime - here we have the disease
known as dysenteric diarrhoea, and by the
extension of the inflamation we may have
resulting true dysentery; this however is rare-
-ly the case if the patient be placed under
proper treatment at its early stage and the
system be not so depraved as to destroy the
contractibility of the intestine. This form of the

disease is generally found in persons who have been exposed to cold wet weather and sleep in ill ventilated apartments, or on damp floors, or the ground at night and subsist-ing on improper food and of habits of un-cleanliness. — So go on in the regular way in which dysentery occurs we may say that it is divided into two stages, first that which is called acute, and secondly that which is called chronic. The acute form has the following symptoms which may be premon-itory or not, in the former case it is preceded by general uneasiness, lassitude, impaired appetite, and dull pains in the abdomen, these may be present for a while then be absent patient has head ache, restlessness, flatulence, sickness of the stomach and slight vomiting, the vomiting of

not a very regular symptom, indeed it is rare to have it at all; pulse may be frequent and full, skin dry and hot; patient has frequent desire to go to stool, and he will have great straining which may produce prolapsus ani, and rupture; therefore we should endeavor to relieve such symptoms by medicines, and at the same time the patient should be quiet as possible, for the violent exertions made by him to get rid of what he thinks is there only tends to aggravate the disease. The discharge, if any, will be of a jelly consistence like mucous, (this form of the evacuation has given rise to the name of Dysentery alba or mucous mucosus) which is glary & free from all colouring matter in many cases; or it may be streaked with blood & mixed with membranous shreds — there may be small quantities of the feces but

charged which is covered by that part of the mem-
brane with which it was in contact before its dis-
charge; here we have a sure sign of secon-
inflamation which may go on & finally res-lt
in perforation of the intestine, then we have an
increase of the symptoms — sudden increase of pain,
great tenderness on pressure of the abdomen; the
slightest touch gives the patient pain; he will
complain of a burning heat, & if the hand is placed
on the abdomen it is found to be extremely hot,
the patients knees drawn up, or the least exertion
seems to increase the pain, even the actions of
the muscles in respiration increases it: in
fact we have all the symptoms of Peritonitis
for it is what we have been describing: to
con the description of the discharges, we will speak of the
hard lumps of feces which are discharged called Scybla

this form of discharge is of a more rare occurrence than we would be led to suppose if we were to confine ourselves to books; they speak as though it was of frequent occurrence, but it is not, it is rare. The most common discharges are mucous alluded to before the discharges of a variegated color: in some cases they resemble the washings of meat, or they are of a dirty brown and foam in the vessel like soap suds or they may be small and of very fœtid odor, in fact we may say an odor peculiar to the disease.

It will be generally found that after a patient has an evacuation, his distress is relieved for a time which aids us in the treatment; in some cases the discharges give burning pain while passing, and this pain lasts sometimes after the patient leaves the stool. There is difficulty in passing urine in some cases in males, & also pain in the vagina of

females: this trouble has been accounted for by the bladder sympathizing with the rectum through the lower portion of the spinal cord: the stomach may participate in the trouble, then we have vomiting & nausea, but as stated before this symptom is not frequent.

The disease may rectify but a small portion of the Colon & rectum, without any fever, or very little, & pass off in a few days with little or no treatment, or it may assume a violent & aggravated form & be one of the most severe diseases we are called upon to treat. In some cases it seems impossible to arrest it's progress, all medicines we give, seem to be entirely inert or to have lost all power to control the disease this however, depends upon the cause producing it, & the general condition of the

We often find this disease complicated, as on Phthisis, & here it is serious in its nature; the cause producing it being constitutional & we may say, on the latter stage, impossible to arrest it entirely; it may possibly be checked, but it soon bursts forth, like the flame of a smothered fire and wastes its victims as ever. How to arrest the disease we must first remove the cause, which alas, is beyond the power of medical skill.

In some cases of Dysentery, as before mentioned, we have no premonitory symptoms, the disease commences with a chill & the patient begins to complain of pain & soreness, here we have the local & febrile symptoms commencing simultaneously; and in other cases fever may precede, some time, before any

disorder of the bowels, in such cases the disease is merely attendant upon some other disorder.

As a general thing, dysentery is said to be a mild affection, but, as stated before, it may, if allowed to run on, prove serious: unless the case is very mild, we always find fever.

To ascertain the extent of the inflamation, we press along the route of the colon if there is pain in the right side and over the sphigasatrium, we have reason to believe the ascending and transverse Colon is inflamed and that the whole of the large intestines are involved.

We may now state how the acute form of the disease may terminate, which may death or recovery, or it may run into the chronic form.

In severe cases the pulse is full, urine scanty, tongue moist & covered with a dirty white

coat, skin hot and dry, the biliary secretion is diminished or entirely stopped, and there seems to be total loss of nervous energy, finally the patient complains of pain of stomach; the skin now is damp & cold, thread like pulse, nausea & vomiting, but here these symptoms may pass off, & the biliary secretions commence & the patient may recover though slowly or the patient yields to the first shock & it is beyond our power to obtain a reaction, in such case the patient has a small frequent pulse, quick but weak, so feeble that we may by slight pressure stop it entirely, the face assumes an anxious expression, eyes staring, but remarkably bright, & far sunken, a purple shade under them, nose pinched, skin cool and clammy, the patient may finally sink into coma, here we may have a violent increase of the local symptoms before coma comes on, the patient will have increased

tenderness over the abdomen which will be hot and tumid & tense, an increase of the discharges which pass without his knowledge; he loses the power over the sphincter, and finally death relieves him of all his earthly troubles.

In ordinary cases the disease generally yields to treatment in six or less days, but if it continues beyond that time without a change for the better, there is generally danger to be apprehended; the symptoms become aggravated, the tormina and tenesmus increase; the abdomen becomes swollen & more tender, the discharges more frequent, the pulse weaker & more rapid, the tongue assumes a dry & brownish appearance, or throws off its fur & becomes red, smooth & [illegible] glazed, the patient becomes weak, exhausted and very restless, the stools are [illegible] [illegible]

the disease has advanced this far there will be
purulent discharges of sanies from the upper
bowels, and sometimes bloody serum.

Even with all these symptoms, the patient
may recover, though the convalescence is usually
tedious, he can scarcely [illegible] a relapse. By
proper treatment & good nursing we may have the
pleasure of seeing one who was so near the grave
restored to health and vigor. Then we may have
a patient taken off suddenly who has not been
affected half so long nor the symptoms so severe,
such cases, are those where the first attack seems
to prostrate the whole nervous system

The chronic form is generally a result of
the acute form. This disease is frequently associated
with chronic Enteritis, and it is sometimes what

difficult to ascertain how far the inflammation extends separately in the two portions of the bowels, but as the treatment of the two affections is essentially the same, especially in those cases in which the symptoms are commingled, the decision is a matter of little importance, only to be sure that the small as well as the large intestines are diseased satisfies us that we have more surface diseases than in dysentery, for in chronic enteritis the symptoms are apt to be more severe. Chronic dysentery when not thus combined is readily known by the frequent evacuations of a small quantity at a time of mucous sometimes mixed with a pus-like secretion or blood, & the tenesmus with which they are attended. Occasionally feculent or bilious matter is mixed with the proper dysenteric discharge.

When the disease occupies the rectum & lower

portion of the colon, instead of the discharge being uniformly mixed with mucous it is irregularly pervaded by it in layers or streaks or enveloped in a thick coating of it formed from the surface of the bowel with which the feces lay in contact.

There is generally more or less tenderness on pressure; though tenderness is by no means present in all cases. The pulse, skin and appetite are affected about the same as in chronic enteritis, but the symptoms of general derangement are usually less. If the disease is confined to the lower extremity of the bowels there is generally not much constitutional sympathy In such cases the disease may continue a long time without any very serious disturbance of the general health: but generally, if the case does not present some

improvement in its symptoms from proper treatment the patient gradually wastes away, the countenance becomes pale and haggard, the nose pinched eyes stary, the appetite fails, and the patient sinks from exhaustion. There are various other forms of the disease mentioned by some writers, but as they only occur as secondary affections, it is not necessary to speak of them, only in connection with the causes of the disease, which are numerous.

The principal causes of the disease, are the influence of heat, the disease occurring most frequently in tropical climes; it often occurs in seasons of great drought, followed by excessive rains, or it may be induced by checking perspiration suddenly, which determines the fluids to the intestines and may produce the disease.

It may arise in crowded, ill ventilated apartments, such as ships, garrisons and hospitals uncleanliness, bad, unwholesome and putrid food often produces the disease in the poorer classes. — Armies sometimes suffer to great extent by this disease, brought on by lying on damp ground, wearing wet clothing and subsisting on unwholesome food.

The disease oftoccurs in Malarious districts, which are said to cause the disease, but it does not depend directly upon the malarious poison. we know intermittents are attended with congestion of blood of some of the internal organs, as the spleen, here the splenic vein is engorged, so also is its tributary (the inferior mesenteric) which returns the blood from the rectum and descending colon, and from

such congestion, inflammation is easily engrafted and of course the result is dysentery, which may be called the sequel of ague.

There are various diseases with which dysentery occurs, as in Typhoid fever, Intermittent Remittent; and also in affections of the liver but it is not deemed necessary to describe all the different forms and complications of this disease, let it suffice that we may look for it in such cases. The disease may occur in summer or fall. it is frequent in autumn, if there has been drought previous, then cool and damp air, any irritating substance in the intestines may produce it, as green fruits. The disease attacks both sexes, old and young but it more apt to attack strangers than natives. this probably is owing to the change of waters in many cases

There has been a dispute as to its contagion properly speaking, it is not contagious. in typhus fever we have dysentery, but here the fever is said to be contagious, & that disease may set up intestinal irritation, but I cannot believe that it can be communicated from one individual to another. Many persons may be subject to the same cause & take the disease, which may have induced the idea that it was contagious; it may be epidemic in hospitals; a few cases may occur, and after a while nearly, if not all the inmates of the room will be taken with it; here it would appear to be contagious, but we are not to conclude thus. for there may be bad gases in the room, and hence the disease.

The Prognosis of Dysentery is favorable when we have a gradual decrease of pain and diminution of the [illegible]

become more free & are not accompanied by frequent pains; the stools assume a more natural color & finally we may have but a slight tenderness remaining, which soon yields to the treatment.

The unfavorable symptoms are a sudden cessation of tenesmus & hæmorrhoids, the skin becomes cool & clammy; the abdomen tympanitic; extremities cool, pulse feeble & frequent, a livid appearance of the nails, the nose pinched, eyes sunken, delirium subsultus tendinum; the sphincters become relaxed, the patient has uncontrollable evacuations & finally sinks into a stupor and dies. In cases of long duration, without improvement we may apprehend danger; cases continuing over two weeks may be considered unfavorable. The progress is also unfavorable when there is tenderness along the route of the colon. In ordinary cases in temperate climates, the disease is seldom fatal when it

occurs as an epidemic in low marshy or miasmatic regions it is unfavorable; death may result from the disease producing a continued train on the system, which causes the vital powers to sink under its intensity. The lesions found after death are of various appearances; in some cases where the disease has been confined to the lower part of the bowel, we find inflamation & thickening of the mucous membranes, or we may have inflamation extending the whole course of the intestines, it may also slough and the membrane present a ragged appearance, gangrene also presents itself; the whole course of the intestines is studded with ulceration of the follicles which present the appearance of ticks closely adhering to each other, these little protuberances are of a deep red hue or brown. when the disease occurs in hot climes, there may be morbid vascularity of the mesocolon, mesentery & sometimes the liver may

result in adhesions of the viscera; this is most oft to occur from ulceration perforating the intestines; the glands of the mesocolon, in some cases, are enlarged & inflamed, which produces adhesions of the omentum thereby causing strangulation of some portion of the intestine & produces death: the ulceration is most oft to occur in the cæcum & superior portion of the large intestine; The ileo cæcum valve has been, in some cases, found to be entirely obliterated & the ileum forms an interception which may unite & thus produce continuity of the canal again & the patient recover; but if the strangulation remains for a length of time it generally produces death.

Ulceration is not a very common lesion, we seldom see it, particularly combined with perforation; perforation does not in all cases cause death, for there are cases where we have had symptoms of perforation & the patient recovers; and there

patients have died of ulceration in the intestines, there has been found cicatrices after the healing of those previously existing. In some cases, the omentum adheres to the caecum which may lead us to suppose there is abscess of the liver. The ulcers in the intestines present a dark appearance some what umbilicated in the centre, like a small carbuncles. The first appearance of an ulcer, is a dark spot, which appears to be a congestion of blood. The inflamation may be so great as to thicken the tube so that when cut it stands open like an indian rubber tube: the inflamation may extend even to the stomach: the small intestines have the characteristics appearance of Enteritis. The liver may be found diseased in cases occurring in tropical climes, gangrene is generally found in those cases of ordinary dysentery: those lesions are more frequently found

in the adynamic or malignant variety than in ordinary dysentery: the mucous membrane, when not mortified, exhibits a dark purple or livid appearance.

For the treatment of Dysentery, a great variety of remedies have been employed, & very different plans have been found successful under different circumstances. The treatment should vary with the degree of violence exhibitted in the disease, the existing state of the system & the irregularities occasioned by associated affections. In ordinary simple Colitis, the indications are those presented by inflamation in general. Bleeding should always be resorted to when there is much pain & tenderness of the abdomen & fever with a strong, full pulse, & be repeated as often as necessary, but it is not advisable to bleed in all cases; in the adynamic form it may be injurious.

and in the advanced stages of the disease, bleeding is seldom advisable. Emetics are highly recommended by many authors & may often be serviceable in the begining of the disease; they may effect an immediate cure. Emetics are clearly indicated when the stomach is filled with acrid accumulations, attended with nausea, evacuations of bile & frequent but ineffectual efforts to vomit; they should not be used if there is inflamation of the stomach or great tenderness of the abdomen: different articles have been used, the antimonials, sulphate of zinc, and ipecacuha, the last, perhaps is best, on account of its mildness & efficiency.

Cathartics are highly useful, & are among the most efficient remedies to free the bowels from irritating accumulations & to relieve congestion in the portal circulation, which is the most prominent indications in the disease.

The mildest purgatives are preferable, and of these castor oil is among the best, or the neutral salts, as sulphate of magnesia, Seidlitz powders when the stomach is irritable, and the neutral salts, with tartar emetic in solution, when the skin is hot and dry. Bitartrate of potassa, in doses of half an ounce repeated at short intervals, has been highly spoken of. The compound powder of Jalap is recommended by some practitioners. Calomel when the liver is sluggish, with a deficient secretion of bile, is the best means to stimulate it to perform its proper functions, and to unload the portal veins & sustain a flow of bile, and may be given in doses of five to fifteen grains, followed in six hours by an adjuvant. We should endeavor to procure one or two evacuations from the upper bowels, daily, or every other day, if not spontaneously pro-

-duced. In advanced stages, cathartics should be sparingly used, unless the affection remain strictly dysenteric. Opiates combined with cathartics, to resolve the spasmodic constriction of the bowels & relieve pain, are often useful. Diaphoretics, such as tartar emetic, neutral mixture or ipecacuanha and opium, in small doses, may be given when the skin is hot & dry; & the effervescing draught if there be nausea & vomiting; the warm & vapor baths have been used with advantage, in advanced stages, but great caution should be had to avoid cold. Opium is a valuable remedy in relieving spasms of the intestines; it is best to administer it after the fever & force of the circulation has been subdued: in combination with tartar emetic or ipecacuanha it acts beneficially by promoting moisture & relaxing the skin; given in full doses at bed time, it produces quiet repose and sleep. In some bilious cases, & those of typhoid character we have

strong indications for the use of mercury; if calomel irritates, blue mass may be used: if there be no improvement in the symptoms, in six or eight days, we may carry it far enough to touch the mouth slightly it may be given with opium & ipecacuanha in small doses, at intervals of two to six hours. Various other remedies have been employed in the treatment of dysentery; Ipecacuanha, in doses of half a drachm to two drachms, with from thirty to sixty drops of the tincture of opium, and in combination with extract of gentian, in doses of five grains night & morning, with compound powder of Jalap in the interval, is recommended in the hemorrhage of typhoidal cases of the disease. Acetate of lead is highly spoken of in combination with opium; it is better adapted to the later stages of the disease; Sulphates of copper & zinc have been used in advanced stages, but are more applicable to the chronic form, when ulceration is suspected, they

be given in the ordinary dose, with opium & intervals of three or four hours. The mineral & vegetable acids (especially Hope's mixture) are recommended in advanced stages & chronic cases. They may be used perhaps with benefit in cases of alkaline secretions: but the tonics & cordials are highly spoken of in typhoid & chronic cases, in these cases occurring in a paroxysmal form, requiring true & stimulating treatment, peruvian bark & quinia has been recommended; powdered guiac in doses of two scruples, three times a day is recommended in the acute form of dysentery. In obstinate cases nux vomica & strichnine are said to be very effective, sulphurated glass of antimony, chloride of lime, nitrate of soda, wax, both mineral & vegetable, are recommended. Leeches or cups, applied along the course of the colon, in great pain & tenderness, are highly useful: fomentations & emolient cataplasms, with the addition of laudanum or camphor, are very useful, & sufficient to produce

liniments, wrapping the abdomen in flannel, have been used, but they are more applicable to chronic than to acute dysentery. Blisters over the abdomen may be used, after other means have failed; morphia sprinkled on the blistered surface, sometimes gives great relief, blisters should not be used until after sufficient depletion. Enemata of emolient & anodyne kinds have been highly recommended as adjuvants to cathartics: Injections of acetate of lead, or sulphate of zinc, are useful agents, after febrile action has been moderated, especially if the disease be confined to the rectum & lower portion of the colon.

Having spoken of the numerous remedies employed in dysentery, it remains now to speak of the minute treatment of the disease, I shall describe that which accords best with my own imperfect experience. In very mild cases, without fever, a dose of castor oil, with twenty or thirty drops of laudanum

is often sufficient: or if the case be of a higher grade, a dose of Calomel may be given, followed in six hours, by oil or sulphate of magnesia: Blue mass by its mildness, acts very beneficially; it may be given in doses of five grains, every four to six hours, followed by oil, in combination with camphorated tincture of opium, in doses of half an ounce. If there be evidence of a loaded stomach in the begining of the disease, we may give an emetic of ipecacuanha. If the symptoms increase with fever, & a strong pulse, we should bleed moderately from the arm, & should there be indications for its use in the begining, of the disease, it should be resorted to before other remedies are used, and we must be governed in the use of the lancet, by the existing state of the pulse & the force of the circulation, in violent inflamatory cases, we may be induced to bleed copiously. After the bowels have been evacuated, we may employ cooling drinks, some of the refrigerant diaphor

-tics, if the skin be hot & dry. If there be pain & tenderness of the abdomen, with feeble circulation, we may employ cups or leeches, & warm fomentations or emolient cataplasms over the abdomen; subsequent to bleeding, a pill composed of blue mass, extract of hyoscyamus and ipecac in doses of one grain of the former to one half of the latter, given every three hours has proved very serviceable. A combination of opium, ipecacuanha and calomel or blue mass, may be given at bed time followed in the morning, by laxatives.

In conjunction with these remedies, fomentations or cataplasms may be continued, the leeches or cupping repeated, if the abdomen continue painful & tender: if the skin continue hot & dry, we may resort to mild refrigerants; the warm or vapor bath, and some of the local measures used for relief of tenesmus should be employed. If the disease should not yield to this treatment by the sixth or eighth day,

we may carry the mercurial plan to slight salivation; and if the local symptoms are violent, a blister may be applied over the abdomen, dressed with iodide of potassium; when the symptoms are urgent we may use mercury, internally & externally: the disease generally yields to this mode of treatment unless there is considerable ulceration of the bowels. If the mercurial plan fail we may resort to some of the alterative means already spoken of; injections of acetate of lead, & sulphate of zinc are very efficacious in obstinate cases, this course of treatment applies to dysentery, as it commonly occurs: the bilious cases require a more active employment of the mercurials. In severe bilious cases, we may give calomel, in doses from fifteen to twenty grains daily, or in five grain doses three or four times a day, until the mouth is slightly touched or some ameliorations in the symptoms

are exhibitted, and which generally follow a mercurial impression. When dysentery with intermittent or remittent fever, we may treat the bowel affection in the manner indicated above; and to abort the paroxysms nothing is more effectual than Peruvian bark or sulphate of quinia in proper doses, at short intervals, it some time rapidly produces a cure; the dysentery ceasing as soon as the cause producing it is removed: quinia is one of the best remedies in those cases having a typhoid [illegible] tendency, when given in doses of fifteen to thirty grains in [illegible] hrs. In cases of an adynamic or typhoid type, generally bleeding & active purgatives, are not admissible, especially if the case exhibit that character in the commencement. An emetic of Ipecac may be given followed by a dose of calomel in the beginning of the disease, until the bowels [illegible]

employ remedies calculated to support the patient such as tincture of rhubarb, or castor oil with oil of terebinthina, in small doses, where depression is not great, leeches may be useful; if these means fail, we are obliged to resort to a mercurial course; we may employ of calomel or blue mass in combination with Dovers powder, in small and frequent doses, as two grains of calomel, one quarter grain of opium, or blue mass three grains, Dovers powder, three to five grains, and given every three hours. In cases of excessive debility or great malignancy, or of a scorbutic diathesis this plan would not be advisable, in such cases stimulants are often necessary, such as carbonate of ammonia, wine whey, wine, brandy & water, decoctions of bark, milk punch of quinia, oil turpentine, animal jellies, chicken broth, &c. nutritious and some of the more stimulating aromatics.

But we should use these remedies with caution according to the degree of prostration. When there is hemorrhage from the bowels acetate of lead, in doses of three to five grains combined with opium & kino, repeated at intervals of three or four hours, is a very effectual remedy. Stimulating embrocations & blisters on the abdomen are very useful, & may be resorted to earlier in this form of dysentery, than in cases of ordinary occurrence.

Of diet. In very mild cases, without fever, solid food, such as stale bread, cold ham, boiled rice, and crackers, may be used; in febrile cases, especially in the early stage, the diet should consist of mucilaginous or farinaceous drinks, such as solutions of gum arabic, arrow root, infusions of slippery elm, flax seed, sassafras pith, decoctions of barley, rice, sago, tapioca, irish moss, & thin gruels, &c: a free general excitement has a beneficial

rice milk whey, animal Jellies, and broths may be taken, especially if there is much debility; during convalescence, the diet should be chiefly of milk, butter & farinaceous substances until complete recovery; relapses are often the result of imprudent indulgence in diet. The patient & his bedding should be kept clean, all excrementitious matter should be removed; the apartment should be well ventilated & the air kept pure & sweet; and, as far as possible, the cause which contributed to the production of the disease, should be removed. During convalescence, the patient should be careful to avoid exposure to hot sun, or to cool, damp night air.

Chronic dysentery is seldom an original disease, but is generally the consequence of an acute attack, slight cases of it, affecting only the rectum & lower portion of the colon, may arise from an obstruction

of the inflamation from hemorhoidal tumors

The most important point in the treatment of this disease, is the regulation of the diet: the same rules are applicable here as in cases of chronic inflamation of the stomach & intestines: venesection is seldom required, but leeches may occasionally be used to advantage when there is much pain and tenderness. When there is chronic inflamation of the small intestines, connected with the disease, cathartics are seldom required, as the bowels are sufficiently opened spontaneously. In severe cases of dysentery, seated in the lower portion of the colon and rectum, mild cathartics are useful, by preventing morbid accumulations in the bowels above the part affected; for this purpose small doses of oil, confection of senna, rhubarb & manna, or some other mild aperient, may

be employed: if there is much pain with frequent discharges, opium and ipecacuanha may be given at bed time, and calomel or blue mass in combination with the before mentioned remedies if hepatic action is deficient. The blue pill — dose of five grains every day, with [illegible] oil, has been highly spoken of by a distinguished physician, as controlling the disease in dependently of any derangement of the hepatic function; and, an able professor speaks well of the blue pill, pushed to moderate salivation when other means have failed.

The alterative remedies, such as sulphate of zinc, sulphate of copper, nitrate of silver, nitric acid, nitro-muriatic acid, Rose's tincture, Copaiba and turpentine, given in moderate doses, three or four times a day, are highly useful: a pill [illegible] of opium

from a quarter to half a grain, may be com-
bined in the above remedies. When the tongue
is dry and smooth, oil of turpentine given in
doses of ten drops every two hours, is highly
recommended, as acting with happy effect,
in chronic dysentery. The warm salt-bath,
in daily use, is a valuable adjuvant to in-
ternal remedies. Swathing the body in flan-
nel, or thick fleecy hosiery, is applied with
advantage in some cases.

When the disease is confined chiefly,
or exclusively, to the lower portion of the
bowels, the most efficient remedy, are
injections, composed of eight grains of the
sulphate zinc, thirty drops of laudanum
and four ounces of water, repeated
twice a day. When the inflammation is

situated in the remote portion of the colon, the same remedy may be used to advantage, by being injected through a tube, so as to bring the remedy in immediate contact with the diseased surface, and thereby act, perhaps, by a direct alterative influence on it.

Respectfully submitted, by

Samuel Gray,

of Maryland.

Baltimore,

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An

Inaugural Dissertation

On

Chloroform and its application to Surgery and Midwifery

Submitted to the examination

of the

Provost, Regents and Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

William Henry Sanderland of Maryland

February 13th 1858

Scarcely has any modern accession to the Materia Medica introduced to the professional public, an agent more erratic in its sphere of usefulness or more potent in its influence upon the nervous system than chloroform. Although anterior to its discovery the history of medicinal substances is replete with the scientific investigations of men of brilliant intellects and inquiring minds and notwithstanding the long list of valuable agents added by those students of the elements in nature, and their application to pharmaceutical purposes, it was reserved for the success of recent date to disclose this invaluable blessing to the world which was destined in the hands of the medical men of the present day to become the desideratum in surgical and obstetrical practice, but especially in the practice of surgery. Within seven years ago chloroform seems to have been discovered synchronously by three intelligent minds in different and very distant parts of the world. in our own country by a Mr Guthrie of Sackett's Harbor, New York a discovery in

France and Liebig in Germany. Its chemical nature was made known in 1834 by a chemist named Dumas he ascertained it to be composed of three equivalents of chlorine with one of carburet of hydrogen. The United States Pharmacopoeia gives the following method of preparing it viz to distill a mixture of chloride of lime, water, and alcohol. Two liquids are condensed in the receiver, the heavier of which is chloroform. This being separated and washed successively with water to remove the alcohol and a solution of carbonate of soda to remove chlorine, is now agitated with dry chloride of calcium to separate the water, and then redistilled, the resulting product being pure chloroform generated by reaction between the alcohol and the chlorine. Properties chloroform is a beautiful limped liquid, void of color, of a fragrant ethereal odor and a taste a little pungent though not disagreable. It is very slightly soluble in water, though readily soluble in alcohol and ether. Boiling at a very low temperature and not inflamable. It is exceedingly volatile and consequently will not

bear exposure to the air. Effects on the system. Local effects. Applied locally it and [illegible] causing a considerable degree of sensitiveness and afterwards if to an abraded surface or a mucous membrane. Chloroform produces a painful burning sensation with more or less of rubefaction, which irritation however soon passes off leaving the part in a state of insensibility to impressions, with entire relief of pain. When applied in the form of vapor it produces the same effects though to a much less extent. Its effects when taken into the Stomach. When taken internally in small doses, although it may occasion slight nausea in virtue of its locally irritant property particularly if not well distributed in the combination we employ or which its administration is rapidly followed by a delightful mental calmness, with slight cerebral confusion, and a feeling of drowsiness the pulse becoming a little less frequent in its beats and [illegible] [illegible]. Carried still further and in larger doses, [illegible] soon begins to show a diminution, with [illegible] of [illegible]

capacity; sight, touch, and hearing becoming less impressible, and positive drowsiness ensuing very promptly, which if the dose has been sufficiently large soon merges into sleep, from which the patient rallies in a longer or shorter time according to the dose taken, having no consciousness of what has happened.

Effects from Inhalation. When a small quantity of chloroform is placed in relation to the mouth and nostrils, so that the vapor may enter freely during each inspiration, the mucous membrane of the air passages first receives an irritant impression: which however is only momentary, being speedily lost in the general sedative effect. The brain becomes confused as manifested by the incoherent talking of the patient. abnormal sounds are heard, vision is impaired and a vague sense of pleasure is experienced with agreable and sometimes ludicrous hallucinations which shortly ends in a sweet sleep, though not always apparently tranquil. Occasionally there is a manifestation of mingled distress and exultation consciousness returning in five or six minutes, with little or no recol-

lection of what has passed. Such symptoms as these requiring on-ly from twenty to thirty minims of the drug. But if the quan-tity used is larger, one or two fluid drachms for instance, the ef-fect indeduced is proportional more speedy and powerfull, the agreable feelings being followed immediately by abolition of sensibility and complete loss of consciousness, the eyelids droop-ing, the pupils rolling upwards, breathing becoming slower and often stertorous; with general muscular relaxation, the pulse in the mean time becoming slower and more feeble. From this stupid or comatose condition the patient unless the application be persisted in, rallies more or less rapidly, having generally no knowledge of what has taken place, and with no ill effect re-maining whatever. Insensibility may begin as early as fifteen or twenty seconds from commencement of inhalation, or it may be postponed as long as two minutes, when induced it con-tinues from five to ten minutes, but may be [illegible] as requisite by repeating the application whenever symptoms

of returning sensibility begin to manifest themselves. having at the same time strict regard to the state of the pulse.

Poisonous Effects. That an agent so powerful as chloroform should have occasionally produced death in the hands of the ignorant and unskillful is not to be wondered at. but wherever it has been carefully administered with no existing contraindication to its employment. that is in the hands of those who were prepared to detect the slightest contraindication. the recorded instances of death under such circumstances are not by any means numerous. When however the inhalation has been carried too far or employed under circumstances forbidding its use. the symptoms of alarm are extreme slowness and feebleness of pulse, slowness of respiration and the face assuming a pale livid hue, which condition if not speedily relieved inevitably ends in death. The respiratory centres being completely paralyzed the function of the lungs is suspended. and consequently the heart being deprived of its proper stimulus arterial blood. necessarily fails to act as

and thus the two great vital forces mutually dependent upon each other fail together and life is extinct. Poisoning through the stomach. Poisoning in this way is of very rare recurrence. I think there is only one case recorded in which it has produced death in the [illegible] and then the quantity taken was unknown but supposed to be some ounces. Changes after death. The principal change is venous congestion in the lungs and sometimes also in the brain. The blood is rendered more fluid than natural. Treatment of Poisoning. If from the drug taken into the stomach the first indication is to evacuate the stomach by emetics and the stomach pump and afterwards support the vital powers till the prostration shall have been recovered from. In poisoning by inhalation, so soon as symptoms of coma manifest themselves, cold water should be thrown upon the face — carbonate or spirit of ammonia applied to the nostrils. Stimulants internally and externally, and [illegible] artificial respiration and galvanism, the current being so directed as to pass through the nerves supplying the lungs and heart.

Mode of Operation

That chloroform produces its effects by being absorbed and entering the circulation is I believe now universally admitted, but the contest has been to locate its primary seat of action, some maintaining one and that too with a force of reasoning that would seem to sustain them in their position that it acts primarily on the blood which thus changed chemically is rendered unfit for the support of the vital functions. But that is not the generally received theory of the present day, from careful observation of the phenomena induced those who have employed it most largely have been necessarily forced to conclude that its first effects are produced upon the nervous centres, the blood only acting as a vehicle to convey it to such centres, for instance we have loss of sensibility, suspension of consciousness and complete relaxation of the voluntary muscles, these symptoms satisfactorily that its action is directed to the central centres and to those immediately concerned in sensation, intellect, and will, those of sensation being affected first. The respiratory centre in the medulla

oblongata is also brought under the influence of the narcotic and the respiration is thus interfered with, the lungs failing to act; the blood consequently is not duly oxygenated and hence the secondary sedative influence exerted over the circulation.

Chloroform in Surgery

While it has ever been the surgeon's highest aim and indeed his noblest aspiration to save, or when not called upon to save, to better the condition of human life he has ever been to a greater or less extent baffled in the practice of his profession by that instinctive shrinking back from pain [illegible] coextensive with the human race. It is true we have long had in our possession agents which have been lauded as preventatives of pain, and which indeed have been employed to some extent successfully. But the use of [illegible] in such cases has not been without the hazard of life. [illegible] no agent such as the one now in question namely chloroform was competent to dispel any of that horror and dread which has always been

unless the surgeons knife and [illegible] indeed [illegible] certain exerts any influence upon the result of an operation [illegible] has his prospect of success been diminished. But since the introduction of chloroform this is in great measure obviated, it being known to the unfortunate patient upon whom either from accident or disease it becomes necessary to use the knife, that the surgeon has at his command an agent which will induce temporarily a state of unconsciousness and enable him to sleep quietly while the operation is going on, without realizing any pain from it whatever, this being known to him he is at once ready and willing to submit to the operation. For indeed numerous instances have been known in which the patients preferred death rather than endure the pain of a severe operation, First then chloroform prevents the pain otherwise attendant upon surgical operations, and secondly the shock to the nervous system under which patients have occasionally sunken and died, is entirely warded off.. Secondly the patient being under the influence

of chloroform and having thereby consciousness and sensibility suspended, with relaxation of the muscles, the surgeon is enabled to operate not only with more ease to himself but at the same time with much more skill, being unembarrassed by any of those turbulent movements which formerly so embarrassed and protracted an operation under the use of other agents. Thirdly did chloroform possess no other superiority over the other agents which have been used with the same intent in surgical operations, than the less unpleasant effects which follows behind it namely of general malaise, head ache, prostration etc. this alone would be sufficient to recommend it to the surgeon giving it the preference to any of them. e.g. the patient rallies in very few minutes after the withdrawal of the drug, with none of the ill consequences following the administration of ether and opium. Take for example ether and although it is true that we may never find death resulting directly and immediately from its effects, yet we do find it occurring now and then

indirectly as a remoter sequence of its influence. But such is not the case with chloroform, if the patient escape the immediate prostration, and the danger is very small in skillful hands. Always does well so far as the influence of the medicine is concerned. Again with regard to opium which was formerly used by the surgeons, upon this after its administration we cannot supply calculate not knowing before hand the susceptibility of a given individual to its influence, and besides if carried to the abolition of sensibility the prostration which ensues added to that necessarily attendant upon a large operation, is very apt to be followed by death. Indeed numerous instances stand out in bold relief to condemn its use now that we possess an agent calculated so well to subserve the same purpose with so much less risk to the life of the patient. Again there is another large class of cases not requiring the use of the knife, in which chloroform is equally indicated, and in which its great addition to the practice of surgery is equally well demonstrated. I refer to its employ

ment in dislocations. Doubtless before modern investigation placed in the hands of the surgeon this potent adjuvant, many a dislocated limb was left unreduced and the poor patient [illegible] a burthen to himself through the remainder of life, or if accomplished by the aid of other relaxants, his constitution suffered from their injurious effects to a greater or less extent. Only then are we prepared to appreciate the value of chloroform in cases of dislocations when we contrast it with the means formerly employed as relaxants, such as blood letting and the narcotics. For instance a patient who was the subject of dislocation, had his arm tied up, a vein opened, and he was [illegible] to syncope to [illegible] his muscles and just then when his nervous system was totally unprepared to sustain any violent effort on the part of the surgeon, the reduction had to be accomplished. And perhaps the system might take months to repair the loss of blood. [illegible] the means chosen it not [illegible] failed to afford the required assistance. But when chloroform has produced [illegible]

full relaxants effects, dislocations otherwise intractible will yield readily to the surgeons manipulations. As an illustration [illegible] the dislocations of the Ossa Humeri which are, especially if they have existed for any length of time, exceedingly difficult to reduce, I have seen two cases reduced at the Baltimore Infirmary by Prof. Smith of the Maryland University, one in the fall of 1857 the other during the present winter of 1858 The former of these which had been standing three weeks I do not think could have been reduced by any other means, and I am certain by men which would have inflicted so little suffering on the patient. He being properly situated so that extension and counter extension could be effected, the Doctor proceeded to administer the chloroform, and then directing his assistants to make traction he manipulated and accomplished the reduction with comparative facility. In the latter case which had been neglected for ten days the head of the bone slipped into its place while traction was being made, without any manipu-

lations whatever, now in both these cases the good result was evidently in great measure due to the relaxing influence of the chloroform. There is one thing just here to be born in mind, in regard to the period of the chloroformic influence at which the surgeon should use the knife or his manipulations in cases of dislocation. The Professor in the University of Maryland whose province it is to acquaint us with medicines and their uses, and whose experience with the use of chloroform in surgery is not by any means small, says that he has found the surgical period to be between impending suffocation with stertorous breathing, on the one hand and returning consciousness on the other. then it is we may safely conclude that it has produced the desired effect, namely insensibility to pain muscular relaxation, and so forth and beyond this it would be imprudent to carry it. There are certain surgical operations which in themselves contra indicate the employment of chloroform. such as [illegible] about the mouth where we fear a collection of blood in the

throat and secondly where we wish the patient to assist us by maintaining the upright position. But in all other capital operations unless contra indicated by a tendency to cerebral congestion or excessive prostration of vital powers or again by fatty degeneration of the heart chloroform should be had recourse to.

Chloroform in Obstetrics

Although chloroform has been used in midwifery but for a comparatively short space of time, yet it has established for itself a reputation and that not undeservedly, for according to the experience of those who use it largely, it is calculated to meet certain indications and exigencies in the lying in room which cannot be equally met by any remedy in the hands of the obstetrician. First then in natural labor where we have in a delicate woman of nervous temperament, pains of an excruciating character, and likely by their severity to bring on excessive prostration or convulsions. Here chloroform is indicated as it has been proved that it is capable of greatly diminishing

an even abolishing pain in some instances without interfering with the uterine contractions. Secondly and a still more important indication for the use of Chloroform, is where the pains have recurred regularly and still the delivery is delayed and protracted by rigidity of the os uteri. here Chloroform acts charmingly producing very speedy relaxation of the os, and the labor is soon terminated without further difficulty. Thirdly and by far the most appropriate sphere for Chloroform in the practice of obstetrics is in those cases requiring assistance either manual or instrumental. here the benefits accruing from its employment is as good as regards both mother and child. the suffering of the former otherwise attendant upon an operation is thereby warded off and the life of the latter is saved. For instance when the version is [illegible] the arm has come down and the uterus is contracting firmly upon the body of the child here something must be done and that too very promptly, or the life of the child will inevitably be destroyed. now the question arises what shall

we do in order to obviate this exceedingly unpleasant but impending result, in the first place we must relax the contracted os uteri preparatory to the operation of turning. For this first of these the relaxation of the os uteri the Materia Medica furnishes no more appropriate drug than chloroform and indeed for the rapidity of its action the promptness with which it accomplishes the object and for the comfort to the patient, none which can at all compare with it, and for the second object namely the accomplishment of version, it aids not only by the softened conditions of the parts which it brings about, and thus enabling the practitioner to turn with much more facility which indeed is much gain to him. but it also protects the mother from shock which might act injuriously upon her. acting here upon the same principle by which it prevents pain when used in surgery. And again in all cases requiring instrumental assistance except perhas simple application of forceps when every thing is in good condition in all other cases chloroform unless

it be positively contra-indicated by some condition of the system in which it would be likely to do injury, should be employed. The practitioner should always administer it himself unless he have a medical friend present. That is he should not trust it into the hands those are ignorant of its modus operandi. Besides he should always keep his finger upon the pulse and be careful to appreciate every beat as the smallest neglect of this may lead to serious results. and as soon as the patient is fully under its influence he should introduce his hand and if the os offers any resistance to its passage. he should introduce it in the form of a cone and gradually dilate, as by this time the parts will be in condition to yield to gentle pressure exerted upon them, and having gotten his hand in he should proceed to turn very carefully and gently.
Again in cases requiring delivery by means of the forceps or blunt hooks or the Cesarean operation, in all the case

the patient should be placed fully under the influence of the drug and kept under its influence till the delivery is accomplished. Lastly chloroform has been found to be the best antidote to eroytism in cases where that drug has been administered when not called for

Administration in both cases

In both cases it should be administered with caution recollecting its great power. the best way is to put the given quantity say from half a drachm to one drachm on a camisice handkerchief and hold it in the vicinity of the nostrils taking care that it be largely diluted with atmospheric air. such precautions as these will very generally prevent any ill consequences. But although prudence and care in its administration greatly lessens and indeed almost divests it entirely of danger. Still as there have occurred in which it has produced fatal results notwithstanding such prudence it becomes highly necessary that we should

provide the requisite restorative means before hand in order that we may be ready to combat the first manifestation of unpleasant symptoms. Again and lastly we should never employ it where it is contra indicated in cardiac disease the heart being debilitated functionally or organically. or where there is tendency to congestion or syncope. for if we employ it in these cases we run the fearful risk of bringing about a fatal termination

An

Inaugural Dissertation

On Encephalitis

Submitted to the Examination
of the
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of the
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for the
Degree of Doctor of Medicine

By John Calvin Carter
of Maryland.
A.D. 1858

Introduction

Of all the diseases to which Humanity is obnoxious, those affecting the great seat of Sensation, Thought, and Motion, are perhaps the most important, and demand the greatest care, and attention on the part of the practitioner. The Brain will not bear any tampering with, and the total loss, or even impairment of the Intellect, compared with a corresponding Lesion in other organs or functions, is a most deplorable circumstance. Let a man's Reason be gone, or only injured to a certain extent, and life to him is almost valueless. Take from him any other faculty Sight excepted, Nay take even that from him, and with a sound mind, he can live to some purpose.

The blind Milton, was an apt example

of what we have just stated =
"Not to him returned Day, or the sweet approach of evn or morn - or sight of vernal bloom - or summer rose - or flocks or herds - or Human face divine!"
Deprived of the medium, through which all that is bright and beautiful in Nature, is carried away down to the deep recesses of the soul - there to well up in a great flood tide, of praise to "That first great Cause, least understood" He asks but one boon, That his mind may be irradiated, "That all mist from thence may be dispelled, that he may see and tell of things invisible to mortal sight."
Place in the scale of Comparison, the loss of mind, and that of other faculties
Yea even loss of "Holy Light offspring of Heavn first born, and the wrecked mind, and its sea of Gloom whose Bil

lows-roll for 'aye' will far overbalance.

Thesis:

Before we proceed to consider the subject of Encephalite, let us briefly examine.

1st The Brain and its Membranes-

2nd. The Functions of the Brain-

3d. The Perversion of those functions.

The Brain is that member of the Nervous System, which is contained within the Cranial Cavity. It is a collective term, inasmuch as, the organ is composed of three individual members-Viz Cerebrum, or Greater Brain-Cerebellum or Lesser Brain-and Medulla Oblongata.

In figure the Brain is extreemly irregular bearing a great resemblance to the surface of a Country- diversified with hills and vallies. With regard to the use of these depressions and projections, all that we can say is- that they exist partially for accommoda-

lion. to similar irregularities in the Cranium, and that they are formed partly by cavities and convolutions in the Cerebral Mass itself.
But there are two points connected with the form of the Brain which may be of some moment in a Physiological point of view. Viz 1st The partition of the Cerebral mass into the Brain proper or Cerebrum which contains by far the largest amount of nervous matter within the Skull and into the Lesser Brain or Cerebellum. and 2dly this partition into 2 Lateral Hemispheres.
The Brain is also provided with Membranes which are three in number 1st Dura Mater or Fibrous. 2. Arachnoid or Serous. 3d Pia Mater or Vascular.
The Dura Mater serves the double purpose of an External Periosteum for the Cranium and the external or principal investment of the Cerebral Mass. The Arachnoid so

named from its exceedingly delicate and
wet like consistency. is the next Envelope
of the Brain. and in common with other
Serous Membranes is a shut sac. The Arachnoid
is reflected upon the inner surface of the
Dura Mater. making that Membrane upon
its inner surface Fibro Serous.
The Pia Mater invests the entire surface
of the Brain. and is composed of an in
finite number of Vessels bound together
by a Layer of areolar tissue. The Pia Mat
er holds the post of honour in the
Cerebral Economy. It is the Nutrient Mem
brane. The Cerebral Commissary.
The Brain like all other portions of the
Human System. is provided with its ap
propriate circulating Apparatus.
It is the especial organ of Perception. Con
sciousness and Reflection. and is intim
ately associated with all Mental Phenomena

Now for the proper performance of the task of the Brain considered as an unit it follows of necessity that each individual Member of the Cerebral System must rightly do its appointed work, and so the several members all work for the common good.

Each Member of the Brain must continue in a healthy state. The Fibrous. The Serous. and above all the Commissary: a proper supply of food must be distributed to the organ in order that it may possess strength requisite to its labour: and we cannot find a better place than this to notice the behaviour of this Nutrient Membrane. We can tell by visible signs, whether this Commissary is conducting himself in a proper manner or not. Should the weakened and impaired activity of Mind, it is evident that the organ is not receiving sufficient Nutriment. On the other hand a Profound Sleep

Indicates that, the Brain is engorged, over loaded, that the amount of assimilating power, is not equal to the quantity, subject ed, to its action. Hence the derangement of the entire Cerebral Economy = Here the Brain must be relieved, in order that its impaired health may be restored.

2nd The Functions of the Brain, and the Perversion of them.

The Functions of the Brain are Sensation Thought and Voluntary Motion.

Many Theories, have been advanced respecting the particular part of the Cerebral mass, to which the performance of an individual Function is allotted. Thus some would establish the Existance of a Sensorium Commune, or common centre of Sensation, and in respect to them, placing it in the Brain. Others again locate the faculty

of Thought in the Hemispheres of the Cerebrum. and place Sensation. in the Central Portions. and Medulla Oblongata. and lastly that The Lesser Brain is the prime Sensorial agent. The director in chief of The Faculty of Voluntary Motion.

We will now. notice The disturbance or perversion. of The Cerebral Functions.

Whenever any organ suffers a lesion either by continued disease. or external violence. we naturally conclude that. there will be. entire or at least. partial impairment of its functions. This is. the general rule. but certain exceptions have been found to exist. Numerous instances are cited. in wh. considerable portions of the Brain. have been removed. or destroyed. without any very extensive interference. with the Corporeal. or Intellectual powers. or functions. Again many curious. but well authenticated cases.

are on record. in which various portions of the Medullary Mass. have been destroyed and such. as from their situation and structure. were supposed to be indispensably requisite to the preservation of Sense & Intellectual Faculty remaining notwithstanding.

In cases of partial injury to an Encephalic organ. with partial lesion of its peculiar function. or functions. the patient may continue to live for a considerable space of time. Take for example. a case of Dropsy resulting from an effusion of Water into the ventricles of the Brain. Now life may as we have said. be preserved in this case. But it is limited by certain conditions. The effusion must not be too rapid and the Skull must yield to the distending force. So that the pressure be not too suddenly applied. We have an excellent example of the above fatal consequences

often result from the influence of pressure too suddenly applied in the case of apoplexy. We prove that an organ can suffer Lesion, and that its functions remain, though of course in an impaired degree, by a Post-Mortem Examination. in wh. we find The Brain altered, both in Conformation and Consistence. The condition of the organ which is visible upon dissection, must have existed for some time previous to the patients decease. Yet a tolerable degree of perfection has been maintained of both Physical and Mental Functions. and the patients large head, has caused him more inconvenience, than any direct disturbance of Nervous power.

We have noticed the fact alone of Functional disorder. The question now arises How are these functions interrupted?

Any individual function. or all of them together. may undergo one of the three following Changes. Excitement. Depression. or Nullification.

1st Impaired Sensation.

We class under this head all kinds of Numbness. from a very slight degree, to total anaesthesia. or. we may have Sensation. the natural character of which is perverted. Giddiness. Tinnitus Aurium Nausea. Ill odors. Ocular illusions. Sundry uneasy feelings which are indescribable.

2nd Interruption of Thought.

Of a diseased mind we have many stages and kinds. Mania of all descriptions. Clouded and Confused Intellect. Defective Memorial Power. Incapability of Judgment &c.

3d. Loss of Voluntary Motion.
Of impairment of this function we may cite Debility of the Muscular Economy. Spasmodic Rigidity. Convulsions &c.
We come now to consider the nature of Cerebral Inflammation. Pathology or as the term implies (The Laws of Disease) is a subject replete with interest. Notwithstanding its obscurity: as applied to particular parts of the Human System. The Brain especially. It is a wide field in which. The mere speculator. The theorist. and the accurate man of facts may become alike distinguished.
Cerebral Pathology is attended with peculiar difficulties.
1st. The impossibility of a Physical examination, which at once throws us back on the "Rationale of Cerebral Phenomena" as the basis of our therapeutic Superstructure.

2nd The actual situation of the unfortunate patient. for what can any word of his help us. "When wild delirium reigns supreme"? when every subject in Reason's Realm. is in a state of rebellion?.

3d Certain diseases of and changes in the structure of the Brain. most diverse in nature. may be and often are accompanied by symptoms. the constitution of wh is identical. The converse also obtains. viz Cerebral disorders & disturbances Idem in Natura. develop themselves by symptoms totally at variance with each other.

4th The existance of Sympathy. in one or more organs. with another that is diseased so that. we must determine in a given case. whether the Brain. is the seat of the Primary mischief. or is merely sympathising.

Inflammation of the Brain may be General or Partial. General constituting Encephalitis Partial as affecting the integuments of Certain Membranes only. To the latter the term Meningitis has been applied by Authorities. With regard to frequency of occurrence. We generally have Encephalitis, and the cause of this is plain. Viz. the Intimacy of Relation existing between all the Members of this Cerebral Family. But we may have the greatest amount of disease in the Meninges, which will commonly be indicated by greater pain, and more tendency to delirium and Convulsions, or if the Brain be the principal sufferer then we will notice Predominance of Coma & Palsy. Having established our title we now proceed to the Consideration of the important and interesting disease to which it has been applied.

Encephalitis

Causes. these are predisposing and Exciting among the predisposing influences we may mention Plethora &c. of exciting causes. Pressure. violent passion. exposure to the Intense heat of the Sun's rays &c.

The disorder usually consists of two well marked periods. viz Excitement and Collapse. nevertheless Belligerents. (as they may very properly be called) do occasionally cross the boundaries of their respective provinces. and set up a great riot & confusion. wh circumstance requires us to watch the contending parties. very narrowly. so that we may know how and when to interfere. and put them to rights again. The phenomena attendant upon the period of Excitement are. Acute pain of the head. Increased activity of the arterial pulse. Distended

Blood vessels, producing great redness of the face - and giving to the eyes a peculiar look - Intolerance of Light and of Sound. Great vigilance, or Interrupted Slumber. Delirium occurring in paroxysms. The symptoms of Coma accompanying - We may also include Nausea, Vomiting, and Constipation among the symptoms - Symptoms alone considered. There are 3 or 4 ways in which Encephalitis may take place - Pain, Nausea and Vomiting may usher in the attack. If we see that fluids of a green or yellow color are ejected, the Liver leads us at once to the Liver, and we are about to add another to the long roll of injuries to that indispensable organ - But upon a careful examination of all the facts in the case, we will still discover that our patient has not been subject to these Headaches or attacks

of Nausea - &c. long Continued. We also find upon examining the Abdomen - that it is perfectly natural - and we at once acquit the Liver. and indict the Brain. 2ndly. The attack may be preceded by the occurrence of Convulsions. and this is about the most certain Symptom of Cerebral Inflammation wh we possess - The duration of the 1st stage is various from 12 - 48 hours. or perhaps more. Then comes the period of Collapse - the phenomena of wh are - Inarticulate muttering. Profound Stupor. Impaired Vision - Obtuseness of Hearing. The Pupil formerly Contracted, now dilates - or is in a state between Contraction and Dilatation - and at last is incapable of either of these motions. We may also have muscular spasm or subsultus. The limbs may be agitated - with a trem-

ulous motion. or they may be palsied. A ghastly countenance. Cold Sweats. Relaxed sphincters and "In the lowest depth @ lower deep. of Coma. Hell. threatening to devour him. opens wide". and then the patient's earthly sufferings are ended. The course of the disorder, is not limited to any precise time. the patient may struggle on for two weeks or more. or the Great Reliever may come to the rescue in 12 hours. Upon dissection we may discover great vascularity in the Brain - it will present @ mottled pink appearance. or perhaps Serum or Pus may have been poured into the meshes of the Pia Mater. Ramollissement in the Brain. or the fibrin of the Blood may have parted from the mass at large and poured forth in a state of solution. forming the 3d

event of all Inflammatory action viz The effusion of Coagulable Lymph!! In its new situation it undergoes Coagulation then Concretion, and lastly the metamorphosis is perfected by the formation of an Adventitious membrane.

Treatment!!

Our discovery that our patient is laboring under Encephalite, let its cause have been what it might, only opens our eyes to the fact that he is in an exceedingly perilous condition and that If releif is not given at once the Relief before alluded to will do our work for us and that speedily. Here there are certain prominent circumstances attended by Sundry Minor ones all however go to make up the grand con-

dition of Fullness. The Indication follows closely on. We must deplete. How? Bleed-Purge. apply Cold.
We shall bleed, untill the desired effect is produced. Viz The unloading of the over-distended vessels and the rescue of the patient from the profound Coma. or untill the diminished violence of the pulse shall warn us to cease.
A short armistice granted we will again attack the Enemy. by Cups and Leeches to the Back of the Neck, Temples, or Mastoid processes. The nature of the case must guide as to a repetition of these measures. If the Foe seem inclined to relinquish Hostilities, we will do likewise, to a certain extent. If not we must maintain a more vigorous defense than ever. With regard to the Cold, we often have the pleas-

ure. of seeing our patients worst symp-
toms abate. or disappear under the power-
ful influence. of this most valuable aux-
iliary. Its mode of application offers
many varieties. as the applying of wet
cloths to the shaven head. or pounded
ice in a pliant bladder. which is the
best method. Again we can resort to the
affusion of cold water upon the vertex
The effect of these remedies must be
carefully watched by the practitioner
and not abandoned to the caprice of
ignorant persons. Circumstances will
rule the use of this means also.
3d. Purgations. In view of the const-
ant tendency to a confined state of
the Bowels in this disease. purging

becomes a most important remedy.

℞ Calomelanos gr v.

Jalapae gr xv

To be followed in 3 or 4 hours by a strong Black draught. afterwards

℞ Calomelanos gr iii - iv - quaque quart hor.

Repeat the Black draught every morning till the symptoms give way.

The combination of Opium is inadmissible, inasmuch as we want the purgative action of Mercury.

Again we will suppose our efforts to have been unavailing, and that the second period, Collapse has taken place. What can we do for this alarming state? Stimulate!! support the failing powers. Keep the Heart moving, and help Nat-

use to recover herself. A blister upon the Skull. may do some good here. (and by the way I we are not to employ blisters at all. in this disease. except under the present circumstances. for. otherwise they would only add to the already existing Irritation. A cautious use. of Restoratives. and Stimulants. has recovered Patients almost exhausted. we may try. Ammonia. Wine. Hoffman's Anodyne and perhaps opiates. wh however must be used with exceeding care. We must not because our Patient is in a Comatose condition. throw away the Dernier resort the forlorn hope. for even though we do no good. we cannot possibly do any harm In all cases of Insensibility generally

and accompanying Paralysis in Particular. the state of the Bladder is an item of great moment. and. in the present instance. the Hypogastric region should be carefully examined. and if the patient does not. or Cannot evacuate his Bladder. the Catheter must be employed. A few remarks upon the chances of recovery. and we will take leave of this deeply interesting subject.

The prospect is dark indeed. if we notice the tendency to Death by Coma. If though there is any probability of Asthenia we may take some Courage. Now is our earnest attention demanded if we would Conquer. Death stands ready to snatch away our suffering.

charge. if we leave him for a single mo
ment. If our watch and ward have ex
hausted us. a brother Sentinel must
relieve us. for. the lines once taken
the Camp stands but a poor chance.
Pallor. a feeble pulse. Insensibility &c
are alarming indeed but. not yet despe
rate. is our case "Nil desperandum"
is the motto. and we have good hope too
if the mind is clear. But. profound
stupor. Partial palsy. Profuse sweats
bode no good. The Crisis has now come
and. if we are interested as we should
be. each measure affording the least
gleam of encouragement. will be care
fully hived, and we only wait the
success of our trials. or our disap-

pointment. alike calmly and patiently.
No other method affords the least shade
of hope and if this fail. then, all is
lost. slowly the dying man pales from
life. the beautiful Temple of the Soul
is empty. and naught but Deadness
dwells there now."

In conclusion, Gentlemen of the Faculty
allow me here to express my sincere
thanks for the kindness and courtesy
of you all, and my appreciation of your
valuable teachings. May the Medical School
of my native state ever hold and exalt
ed station. and the Faculty be a Galaxy
of shining stars in the Medical world.

An Inaugural Dissertation on Pneumonia.

Submitted to the examination of the Provost, Regents and Faculty of Physic of the University of Maryland, for the Degree of Doctor of Medicine.

by
Thomas E. Skinner
Queen Ann's Co.
Md.

Perhaps in no vocation has the speculative genius of men been employed more diligently than among the members of the medical profession. From the time of venerable Hippocrates to the present, men have risen, flourished & passed away—, and with them have passed those productions of genius which for a time, raised them above the common order of men, and numbered them, as it were, "Stars of hope" for the weary and afflicted of earth. However, as the general principles of knowledge became more universally known and appreciated, old theories exploded, and new ones rose upon their ruins. To be good "Therapeutists", we would do well to learn the theories of the past, compare them with the present, note the defects, and select from each as prudence dictates; from the world

credence be placed in many of the ancient writings, we would again awaken the disputes of the Dogmatists or Rationalists, and Empirics. Indeed, many of the present day are quite empirical in their notions, though the majority do not agree "that all sound experience must be the result of observation alone" (that is, observation merely of the external manifestations of disease), thereby rejecting of course, obscure etiology, anatomy, and every thing that pertains to the thorough understanding of disease; thorough so far as dissection reveals the inward workings of disease, upon which we base our knowledge of pathology and morbid anatomy. Though we may observe post mortem, the congested or thickened mucous membrane, or other apparent lesion, we can not in all cases

decide from this prima facie evidence, that such thickening or congestion, is the direct result of inflammation. These observations of facts *generally true*, will not give positive knowledge of the real cause, till theory, radiant with the light of truth, comes and establishes the *fact*, unalterable. Celsus, who was numbered among the Empirics, says – as we are all willing to say – "That the true rule of practice must be deduced from a proper combination of *reason* and experience". "Divine Hippocrates" first compared facts noticed by himself and others, deduced therefrom his theories, and became the "Father of the dogmatical or rational system". These two sects then, as strict adherents each to its own exclusive and false doctrines, could not long exist

without a combination of the good qualities of each, and a mutual blending into one harmonious system, which system is recognized particularly among the orthodox members of the allopathic profession. Empiricism, proper, prevails to a considerable extent yet, and many things happen that seem a childish folly, to an enlightened eye. The "quack" of the present day, notices a man shivering and giving other well known easily recognized symptoms of a common ague; with the assumed nonchalance of a self-conceited philosopher, he gives his diagnosis, and writes his aphorism, "steam bath and Cayenne pepper cure an ague." But another case demands the medical eye's attention. The same child with febrile excitement following:

pain, dyspnoea, cough, peculiar expectoration
&c; but "it is a mere cold, and will wear off in a
short time"! Physical signs! "numbers" says he;
"I have noticed the same (internal) signs many
times." day after day, the M. D(!) comes, but-
still the extraordinarily persistent cough and
gradual progress of emaciation foretell a
speedily fatal issue. He uses his stereoscope
to no avail; nature sinks beneath the blow, and
death claims his victim. He has learned from
observation alone, that heat is applied in its
effects to cold, and as a Pompeian friend
told me some time ago, when in reply to his in-
quiry I answered that Pneumonia is often the
result of exposure to cold, "apply heat to draw
it out." Does this utterly unconscious of the end
to be effected by medical treatment.

he must then leave the doctrines of Empedocleans
quacks to their inevitable fate, and cleave to the
only true system, the allopathic: which, steering
the medium course between the Scylla of the
Homoeopaths and Charybdis of the Empirics,
can and does lead to the only true result,
and places the most brilliant stars in the
galaxy of medical philosophy. Thus leaving
this idle discussion of doctrines, I enter
with diffidence upon this duty assigned
to me, knowing that "of myself I can do
nothing." I beg of you, Gentlemen, to
expect many imperfections, as the
result of the want of practical experi-
-ence, so necessary to success in
any undertaking.

Pneumonia, or inflammation of the substance of the lungs, cannot be followed by the eye of the practitioner through its varying course, thereby creating a necessity for auscultation. Thus, by cultivating the sense of hearing, we may explore the mysteries of disease at work within the human breast, and so direct our remedies, that we shall not fail in accomplishing great good. It seems quite rational that the lungs should be the frequent seat of inflammations from their intimate structure and uses. As all the blood of the body must pass through them to be aërated, any cause which may create congestion, must also give rise to its most common sequela — inflammation. This then presents to our consideration, the first, or the stage of inflam-

-matory engorgement. Now arises the question, to what is inflammation owing, and how are its effects characterized? The first and most common cause is cold; it is well known that exposure of the surface to cold, causes contraction of the capillaries of the skin giving the peculiar "cutis anserina". Contraction of skin [illegible] and congestion with remora of circulation. It also suppresses the cutaneous transpiration; and when a person, who is perspiring freely, is suddenly exposed to cold air in motion particularly, the secretion is checked and driven inwards to be eliminated from the system by the urinary apparatus. But this sudden suppression, by contracting the capillaries, and obstructing the circulation imposes a greater task upon the internal organs, and as the lungs perform the function of

oxidation for the whole system, and have all the blood of the body passing through them at each round of the circulation, they are the most liable to derangement. Again, the parenchyma of the lungs must also be supplied with nutritious vessels running through it, and for this purpose we have two bronchial arteries whose blood after it has run its course through the substance of the lungs, is returned by two venous trunks emptying – one into the vena azygos, the other into the left intercostal vein. The blood from these, enters the general circulation, and is soon again returned to the lungs with the rest of the blood of the body to be deprived of its carbon. Without entering into a more minute examination of the pulmonary circulation, we have seen ~~the~~ how the first

stage may be established. From the sequelae of this engorgement demand our attention. The blood now stagnant in the part, "does not coagulate," but separates into its constituent particles. The red corpuscles adhere to each other, and the vessel becomes impacted, and we observe the symptoms — pain — heat — and swelling. The pain I believe to be owing to the distension of the walls of the vessels and consequent pressure upon and stretching of the nervous fibrils of the part involved. When acute, probably it is owing to the participation of the pleura. It is generally, however, only or merely a sensation of soreness or oppression in various parts; sometimes developed only by a deep inspiration or strong percussion. There is also as in external inflammations of other

structures — swelling — dependent upon the effusion of coagulable lymph. The lung in the first stage, is of a dark red color externally and crepitates under pressure; it is heavier than healthy lung, inelastic and there is more liquid than air in the cells. It is more easily torn and notwithstanding its increased density, floats in water. When cut, it pours out a turbid, frothy serum, owing, I judge, to the intermixture of air. This engorged state, to which also is given the name of splenization from its resemblance to the spleen, may be mistaken in post mortem examinations for the congestion of mechanical ~~infiltration~~ gravitation; but may be distinguished by the color "being generally brighter" as it is arterial blood, and by its usual situation

is a non-dependent part of the organ. If the inflammation continue, this coagulable lymph, above mentioned, continues to be poured out. The explanation given by Dr. [illegible] of this lymph, is the best authority that I can produce of its true nature; he says, "it seems to be closely analogous to, if not identified with the pure fibrin of the blood." It is generally mixed with serous fluid, and is probably thrown out of the blood-vessels in the form of liquor sanguinis, or fluid portion of the blood, deprived of its red corpuscles &c" "The fibrinous part concretes, while the albuminous portion —as serum— fills and distends the inter-stitial spaces." We have now developed the second, or stage of red hepatization (Reeves)

red softening (Andral). It has received the name "hepatization" from its resemblance to the liver. We have a dark color or grayish red externally; internally, a variegated appearance, owing to the intermixture of the pulmonary structure with the brighter effused lymph. The lung no longer crepitates on pressure, is readily torn or broken down, sinks in water & exudes when cut, a fluid thicker, less frothy and in less quantity than during the first stage. The lung does not collapse on exposure to air; it is solid.

The third or stage of "purulent infiltration" "gray hepatization" or "gray softening" resembles the second or stage of "red hepatization" except that the color externally and within is of a pale or grayish

yellow appearance. It is also much softer, and may by pressure be reduced to a mere pulp, "with a few shreds of solid tissue remaining". The fourth, or stage of Vomica or abscess, is very rare, and by some doubted; indeed it hardly seems probable that the patient can survive the ravages of disease till so late a period. Having thus briefly noticed the "morbid lesions", we glance slightly at the symptoms of common or lobar pneumonia, as it occurs uncomplicated in adults, since neither time nor inclination allow a a more extended view of so intricate a disease in its various complications. Pneumonia generally commences with a chill more or less severe, and fever; soon also dyspnoea, cough, more

a less severe pain in the side or back part of the chest. The preliminary symptoms are very various; the patient sometimes suffering for days with lassitude and general malaise, or with catarrh more or less severe. Secondary pneumonia often begins, wholly unaccompanied by any of the usual prominent symptoms, and can only be recognized by the hurried breathing, great and increasing weakness, and the physical signs. When "fully" developed there is pain, fever, dyspnœa, cough, viscid and scant, expectoration often mixed with blood. The pain has been noticed; the breathing quickened from sixteen or eighteen to forty or sixty per minute, owing to the gradually increasing inflammation and consequent consolidation; thereby giving the remaining

healthy lung more labor to perform; and as the air enters only a short distance into the tubes, the respiration is of necessity more hurried. The sputa in pneumonia is either dry or attended with very slight mucous expectoration, though in a day or two, it becomes viscid, or semi-transparent and rust-colored, reddish or greenish, owing to the quantity of blood present. This is the peculiar sputa of this disease, becoming as the disease advances, so tenacious that it will adhere to the bottom of an up-turned vessel. The color of these sputa we are told, depends not upon mere "streaks" of blood, and is not the unmixed blood of Phthisis or Bronchitis, but it is intimately mingled with the mucus poured out by the inflamed vessels. As I before said, we can

only follow the course of this disease of the ear, and now we inquire - what do we learn applying the ear to the chest in the first stage of pneumonia? The all important sign is "fine crepitation," resembling the sound produced by rubbing a lock of hair between the fingers near the ear. this sound is not heard long in one place, but changes or ceases entirely as the disease advances or becomes resolved. It has been attributed to various causes, and I think Dr. Williams of England has given the most satisfactory explanation. He [illegible] it means in the most minute ramifications, the mucous lining membrane having [illegible] viscid fluid become slightly adherent from the contact of their walls by pressure from without - i.e - by presence of distended blood vessels and interstitial consolidation, the air [illegible] separates the walls of the tubes in passing through

this viscid matter, giving rise to the peculiar sound. This seems reasonable; for the air of course cannot pass with ease and without resistance, as it should then have moved, the smooth, vesicular murmur of health; but, breaking by degrees the viscidity, gives that rapid succession of distinct sounds, so characteristic of the first stage. Again, it is heard only or mostly during inspiration; more distinctly when a long or hard breath is taken, separating more forcibly the viscid matter. Then, leaving aside this scientific view of cause and effect, we know that it is the earliest sign of the disease. [illegible] the sound becomes by degrees less sonorous, and we hear with the returning respiration, murmur of health, or, the disease still advances and then gradually the subcrepitant sound is heard. Authors say that the "sub-crepitant rale" is coarser than the "fine crepitation," and

heard only during expiration. The prominent sound of which we spoke as remaining so prominent in advanced stages is that the disease has passed into the second stage. It is known by all, that sound is better transmitted by a solid substance than by air or liquid. (A familiar illustration occurred some time ago; on placing my ear to one end of a fence rail while a second person scratched the opposite end with a pin or nail, the sound was readily transmitted and very distinctly recognized, but on raising my ear thus cutting off the direct communication the sound was lost. From the effusion first of serum and blood, afterwards of coagulable lymph and blood into the interstitial cellular tissue & consequent consolidation, the sound of the air entering the larger bronchial tubes — the smaller being obstructed — is readily conveyed to the ear of the auscultator; and the very characteristic bronchial

respiration is readily recognized. This sound is like that produced by blowing through a quill or other small tube; "puffing", "whiffing", or some such epithet is ap[plied]. Besides this, there is still another sound bronchophony, caused by the vibrations of the walls of the tubes when the patient speaks, and readily conveyed to the ear by the stethoscope being. It is also said that the patient's voice is well & distinctly heard when the ear is applied with the stethoscope to the patient's chest. Still another remarkable sign, is the vibration of the walls of the chest when the patient speaks or coughs, made sensible by palpation. Percussion also renders a very important & characteristic sound of this stage; besides dullness amounting to flatness, thus differing remarkably from the slight dullness of the first stage. I would here mention that while one lung is thus diseased, the other lung

perform its office perfectly, a greater task is imposed upon its fellow, and we have increased respiratory murmur, called from its similarity to the respiration of children, — puerile respiration —. In the third stage there are no very prominent signs, except a mucous rale supervening upon the bronchial respiration, showing that probably "the concrete exudation of the second stage, has been replaced by the pus of the third stage". There is the same flatness on percussion. When an abscess has formed and become opened into the bronchial tubes, "we have gurgling rale if there is liquid, & cavernous respiration if the cavity be empty." In returning to the consideration of the symptoms, if the disease yields in the first stage, which often does from two to four days, the pain diminishes, the inspiration becomes more easy, and more

like mucus, the frequent pulse lessens; the tongue cleans and convalescence may be speedily established. The crepitant rale also gradually diminishes, and the respiratory murmur of health is restored. If arrested in the second stage after hepatization is established, we will have a gradual diminution of the bronchial respiration and broncophony, and before the respiratory murmur is established, a mucous or sub-crepitant rale; also ~~the~~ the returned resonance of the chest on percussion. We often see the return to health in pneumonia marked by various critical discharges as they are denominated. Albuminous urine as proved by the test tube with heat & nitric acid. Copious perspiration, diarrhoea, epistaxis & other hemorrhages, with often also herpes about the lips, boils and abscesses.

Diagnosis— It is most likely to be confounded with Bronchitis, but may be distinguished by pneumonia presenting symptoms rather of soreness than pain; lastly the expectoration being viscid and rusty, mixed with blood and not merely streaked as in bronchitis. In the latter there is no crepitant rale, but dry & mucous rales, & there is but little dulness on percussion. But they are very often combined so as to give great difficulty in distinguishing them amounting often to an impossibility. Prognosis— in the variety just considered, almost always favorable, under appropriate treatment. Causes— mostly attributed to changes of weather, and sudden exposure as was said before particularly to cold and damp, when the body is warm & perspiring. Treatment; The first & most prominent indication is, to subdue

febrile excitement & inflammation; 2ndly - to prevent the effusion of lymph &c. 3dly - to promote absorption & 4thly to support the constitution when necessary. The most prominent means of accomplishing the first indication, are, bloodletting general and local & tartarized antimony. Venesection is highly recommended; we relieve congestion, and subdue inflammation by removing the inflammatory portion of the blood. i.e - the increased amount of fibrin in the blood. By lessening the quantity of the blood, we relieve the lungs of an overburden in their present diseased condition, and also evidently increase the tendency to absorption. We by this means lay the foundation for an easy mercurial impression should such be subsequently deemed necessary. To be brief, we refer to the next most useful agent -

antimony. After bleeding, and a mercurial cathartic to free the stomach & bowels, and stimulate the viscera, particularly the liver, to healthy action, we may use the preparations of antimony with a view to their sedative, expectorant, diaphoretic & diuretic actions. In doses of from a twelfth to a quarter of a grain every one, two or more hours acc. to circumstances, we may have a constant nauseant, & consequent sedative effect. It is decidedly antiphlogistic; since by trial it has been proved that the fibrin is lessened ⅓ & the pulse from ¼ to ⅕ of the existing number of beats in three or four days. The number of respirations, pr. mt are also diminished. Its actions are, first to sedate, & 2ndly to diminish the quantity of fibrin & increase the urea, therefore a valuable eliminant of this blood poison if in excess. These

remarks apply to primary pneumonia in non-
=tuberculous constitutions. The duration of this medi-
=cation is generally from three to four days. Should
the disease still advance, Calomel seems mainly
to answer the third indication, combining with Opi. to
prevent its passage off by the bowels. Indeed Cal. from
the beginning is very highly recommended - use of it.
A combination of Cal., Opi. & Ipecac is recommended
by Dr. Hope; about a grain of Cal. with a quarter of a
grain each of Ipecac & Opium at short intervals till
a slight mercurial impression is made upon the
gums. To fulfil the 4th indication, we use stimu-
=lants, and Port wine & whey, & Quinine. Should
hectic fever supervene. In a word, in a plain uncom-
plicated case of pneumonia, Bloodletting, mercurials, counter irritants
are about all the remedies necessary, with great care in diet & regimen, which
in a very serious, this disease is manageable with proper treatment is

fatal if neglected.

An

Inaugural Dissertation

on Enteric Fever,

Submitted to the Examination

of the

Provost, Regents, and Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine.

By

John Thomas Kuhl

of

Maryland.

1858

Enteric Fever.

In choosing the above disease as a subject for my short essay, I do it with the obvious conviction, that it is the most important of the febrile affections we encounter in the every day walks of practice; and that some day (a time not far distant) it will be the type of fever that the rural man most frequently will be called upon to treat—

It is evident to the most casual observer that Enteric fever is steadily & rapidly on the increase in all parts of the United States. It was formerly but little seen except where the miasmatic fevers did not prevail but we now frequently find it in miasmatic districts, alone and complicated with the miasmatic fevers— According to my observation in such localities, I have found it nearly as often complicated with

Enteric fever is an eruptive fever having a great diversity of symptoms, having in general a recognizable character.

Enteric fever is preferable to the numerous other names that writers have been pleased to call it, because it is distinguished from all other Idiopathic fevers by the frequency and extent of the intestinal disease.

Other fevers are attended occasionally with disease of the bowels; this almost always, if not essentially. The intestinal affection is as characteristic of Enteric fever as the eruption is of Small pox.

The disease sometimes comes on suddenly by a chill, followed by the usual symptoms of fever; but its attack generally is insidious, the patient complains of weariness, general uneasiness, headache &c; the skin is hot, face flushed, pulse accelerated

– slightly coated with a whitish fur; these symptoms continue for several days, after which the disease becomes completely formed.– The symptoms may then be divided into those of the 1st, 2nd & 3rd week– Symptoms of the first week are a chill [illegible] succeeded by fever with its ordinary phenomena.– Headache is very seldom absent, pains in the back, [illegible] [illegible] countenance, [illegible]; [illegible] and diarrhea, cough [illegible] symptoms– Delirium and stupor often come on the first week, but [illegible] until the second– Derangement of the digestive organs, [illegible] nausea, vomiting, diarrhea. The abdomen is [illegible] with a gurgling sound upon pressure– Such are the course of the disease in the –

-the second week, then others make their appearance; the pains & fever are more severe than during the first week, the tongue previously moist & clammy becomes dry and of a brownish color. Deglutition & sometimes pain [illegible] [illegible]cent, the abdominal distension is greatly increased, and [illegible] petechiae, [illegible] rose-colored spots appear, and the latter part of the second week Sudamina appear upon the neck and upper part of the chest, sometimes extending over the whole body—

Diarrhea is not unfrequent, transient pains are often felt in the abdomen increased by pressure, especially over the right illiac region— The tongue is dry & scaly, & red at its tip & border; delirium & stupor often take the place of the heaviness..

Such are the symptoms; but in addition to those of the first week.—

The symptoms of the third week of the disease continue to increase, are those of typhoid condition, the tongue is incrusted with a brown or black coating or is dry, glazed and sore; while dark sordes collect upon the teeth, gums and lips.— There is great depression of the vital powers, as characterized by the extreme debility.— The surface is hot and dry, or hot in some places and cool in others; nervous symptoms are increased in severity, such as subsultus tendinum, twitching of the facial muscles, delirium in which the patient becomes restless and attempts to quit his bed.— Bed sores are common.— [illegible] maculations, [illegible] from the [illegible].

If the case is to end unfavorably, the pulse gives way, and becomes either frequent and fluttering, or slow and scarcely perceptible; the extremities cool & clammy, the abdomen enormously distended, the countenance assumes the Hypocratic aspect, and death speedily ends the horrible scene.— But if the termination of the disease is to recovery, all the symptoms assume a favorable aspect; the tongue becomes moist, and cleans gradually at the tip and edges, the skin relaxes, becoming clear, & more moist; the stupor or delirium subsides; the patient noticies things around him, the abdominal distension diminishes, & an inclination for food is [illegible].— Under these circumstances convalescence speedily takes place.—

In other instances, especially in severe and protracted cases the course is different; instead of clearing [illegible] the tongue throws off its fur in [illegible] leaving the surface smooth & red. This state of the organ is [illegible] [illegible] [illegible] This mode of clearing is often [illegible] the symptoms remain [illegible], or aggravate in severity. The disease [illegible] in proportion of the [illegible], [illegible] cases are more apt to terminate thus. The symptoms of perforation of the [illegible] are [illegible] of the abdomen [illegible] [illegible], or they may not be [illegible] soreness. [illegible] of the circulation & of the [illegible] [illegible] day, [illegible]

The perforation may occur as early as the third week or as late as the fortieth day. Duration of Enteric fever is [illegible]. Death takes place at any time from the 6th or 7th day to the end of Disease. Period of Convalescence is variable; it sometimes begins on the 14th or 15th day, but rarely before the 3rd week. The average duration of cases is from 2 to 4 weeks. Some of the symptoms of enteric fever demand special attention. First the diarrhea which may show itself before the fever, or during the first days or so. The stools may be from one to many but the occurrence of one stool of liquid constitutes diarrhea according to Louis. The diarrhea depends upon irritation or inflammation of the bowels and is attended by pain.

Tympanites is almost always an attendant, at first it is slight, but generally increases as the disease advances. The rose colour eruption is the most characteristic symptom of Enteric fever, they consist of small red spots slightly prominent disappearing under pressure, and returning after the removal of pressure — They make their appearance between the seventh and fifteenth day — Pedalium appears about the fourteenth day consisting of minute vesicles. Cough and bronchial rales are observed, the cough may be dry or slightly mucous. The pulse is variable generally frequent, but as the disease advances becoming feeble — Hemorrhage is a frequent symptom of Enteric fever — In the early stage of the disease epistaxis which is generally moderate, rarely demands interference.

[illegible] symptoms [illegible]
[illegible] [illegible]
the [illegible] [illegible] [illegible]
or stupor, after the [illegible]. There is dul-
ness of the mind, dejected countenance,
restlessness &c. Delirium comes on after
several days, but usually not before the
seventh day. Deafness is a symptom that
is not observed so frequently in any
other febrile disease. In the advanced
stage, a tendency to [illegible] [illegible];
there is also retention of urine, which contains
urea, & sometimes albumen, which is an
unfavorable symptom. The above is a des-
cription of the disease as it generally
appears, but there are other varieties & com-
plications. In some cases all the symptoms
are mild. In cases again the symptoms are of
gastric or hepatic disorder.

In So[illegible] c[illegible] [illegible]
prominent symtom, in others it may
be cerebral or pectoral disturbances.
The lesions of Enteric Fever are divi[illegible]
into those that are uniform, & t[illegible]
that are acci[illegible] [illegible]
lesions are the changes which ta[illegible]
place in the glands — the glands of
Peyer are inflamed & ulcerated; the patches
of this gland vary in number, they are from
one to thirty, and upon the surface of the
[illegible] opposite the [illegible] the solitary
glands of the [illegible] are [illegible] affected
as the glands of Peyer. The mesenteric
glands are [illegible] and [illegible].
The lesions just described are [illegible];
other parts of the [illegible]
of the disease. The liver and spleen are
frequently affected.

The spleen is changed in size, color, consistency, sometimes so soft that in taking it up the fingers slip through it. Thoughts the [illegible] the brain, [illegible] heart, & respiratory organs are more or less affected. The essential cause of Enteric fever is unknown. It is often generated in situations, where people are crowded together. It originates [illegible] in prisons, camps, large cities, ships where the air is vitiated & the food unwholesome.

Age has some influence, it occurs in early adult life. Whether contagious or not it is disputed, although there are good authorities on both sides. If contagious it is under peculiar circumstances as neglect of proper hygienic precautions. It does not generally occur in the same person but once.

Diagnosis of Enteric fever in both the mild & advanced stage is often difficult to determine. It must be governed by the history of the case, the gradual invasion of the attack, the diarrhoea, dull expression of countenance & epistaxis; cough, & bronchitis at end of the first week dryness of the tongue, and general diminution of the [illegible], the Enteric eruption, & abdominal [illegible] parotitis, delirium & such symptoms indicative of a typhoid condition— Enteric fever is sometimes confounded with remittent fever, from which it may be distinguished by the [illegible], bilious vomiting, yellowness of the skin, duration & [illegible] which attend remittent fever.

The diagnosis between typhoid & typhus is easily made. Typhus fever is not [illegible] its attack [illegible] chilly, [illegible]

-the 21st day, has no well marked re-
missions. Epistaxis common, diarrh. & ab-
dominal tenderness, too, the characteris-
tic eruption occurs at the 7th or 8th day.
Sudamina appear between the 11th &
15th days & as a constant lesion, occurs
in fall & winter, second attacks are
rare. Typhus fever is contagious,
attacks all residents, ends by critical
discharge from the 9th to the 14th day,
no marked remissions, no epistaxis,
but common flat; characteristic eruption
appears early & is more abundant, sud-
amina rare, petechiae common; & has
no constant lesion, & is by
[illegible] in nearly every [illegible],
occurs mostly in winter & spring,
second attacks occur.—
The Physician should be guarded in his diagnosis making—

a many
Fevers resemble each other in the beg-
inning. The prognosis of this disease
although a serious one is generally
favorable; and there are a few diseases
of its character more submissive in
all its stages to proper treatment than
this fever.
In the treatment of enteric fever as in a
good many diseases there are several
indications to be aimed at: first remove
all sources of irritation external or internal;
secondly to abate febrile excitement & to allay
undue or moderate local irritation, or
inflammation either general or local;
And fourthly to sustain the system during
the whole course of the fever.
For the removal of existing irritation
the mildest purgatives should be used to be
least irritating, on account of the ulcer-

– Susceptibility of the [illegible] to the action of cathartics, it is not advisable [illegible] to begin the treatment with [illegible] purgation. The bowels should be sufficiently evacuated by enemas or castor oil, the latter if there be irritation, and if pain a few drops of laudanum added. [illegible] be no [illegible] much [illegible] no purgatives [illegible] be necessary but if [illegible] the patient [illegible] laxative, magnesia is specially indicated if there be acidity. [illegible] the latter stage of the disease. If the stomach be irritable & purgatives not well borne by the stomach, [illegible] may be given in the first stage, and in the advanced stage oil of turpentine may be combined with the enema. The bowels should be allowed to [illegible] throughout the disease. For the fulfilment of the second indication [illegible] –

of the febrile excitement, if there be great
vascular excitement, venesection may
be carried to the extent of a pint or more
once only, but in no case is it proper
to take blood the second time. It must be borne
in mind that the disease runs a certain
course, and it is very important to husband
the strength of the patient; the tendency
of the disease being to debility. It [illegible]
should seldom be practiced after the first
three or four days of the disease, though
local bleeding is often demanded through-
out the disease whenever there is active
congestion or inflammation of certain
organs. The amount of blood taken
should be in proportion to the strength
of the patient. Refrigerant diaphoretics
or the citrate of potassa may be given
throughout the disease, if the symptoms —

-indicate it, and if the [illegible] quite
to the stomach, not irritate, it may
be combined with small doses of tart.
emetic. For the removal of [illegible] symp-
toms [illegible] emetic [illegible]. If it cause uneasiness,
laudanum may be combined [illegible] after
of these medicines may be given every
two hours. If not contraindicated Dover's
powders may be given at bed time.
Cold applications are very useful to
lessen the heat of the surface, they
may be applied by means of a sponge
wet in cold water. In cases of [illegible]
spirit may be substituted for water [illegible]
& ice may be held in the mouth. To
allay severe headache cold water or
finely crushed ice in bladder [illegible]
pain in the abdomen [illegible]
[illegible]

If there be great tenderness of the epi-
gastrium, right iliac region, or elsewhere,
a few ounces of blood may be taken
by means of cups, or leeches from the
tender part. [illegible]
[illegible] are very
useful. The diarrhoea unless exhausting
may be allowed to take its course, but
if excessive small doses of opii, ipeca, and
act. lead is applicable. To allay nervous
[illegible]
[illegible] water, or quinine, if not contraindicated.
In mild cases of Enteric fever [illegible]
than the above detailed treatment will
be required, but [illegible]
[illegible]
with an increase in the severity of
all the symptoms, [illegible]
[illegible]

This Condition of the mucous is Combat-
-ted most effectually of mercury given so
as to slightly affect the gums. In
the secretion acts as an alterative.
The mercurial impression should
be made in the shortest way possible
[illegible] doses of blue mass may be given
every two hours, and if the stomach
is not irritable small doses of opium
may be added. If the symptoms do not
give, the tongue becoming dry, & the ab-
-dominal distension not diminished, the use
of turpentine will be found an admirable
remedy, given in ten drop doses every two
hours. The use of the turpentine acts as a stim-
ulant & astringent to the ulcerated surfaces
of the intestinal mucous membrane.
In a majority of the cases by the use of the turpen-
tine, the symptoms are observed to ameliorate;

- the tongue gradually becomes moister, & covered with a white fur, the tympanitic distention decreases, ~~to increase~~ the pulse becomes less frequent, & the skin less dry & harsh; the patient slowly but gradually enters into convalescence.

The quantity of oil of turpentine should be diminished as the case improves, but should not be withdrawn too hastily. The debility attendant upon the advanced stage of the disease, requires medicine to strengthen & support the [illegible] from this condition [illegible] [illegible] are in [illegible] [illegible] [illegible] these [illegible] [illegible] [illegible] the constitution it may be advisable to administer them early, but generally not until the second or third week. The [illegible] should be [illegible]

-to the state of the pulse, skin, and circu-
mstances of all other conditions of the patient.
If the [illegible] pulse is feeble and frequent, the skin
cool, the tongue and teeth incrusted with
dark sordes, then tonics and stimulants
should be used; again when the pulse
is very frequent, [illegible] and the
skin at least [illegible], under other
circumstances they are often useful.
Should tonics and stimulants when
properly administered aggravate the symptoms
they should be suspended; but should they
moderate or remove the symptoms, and
act favorably they should be persevered
in. The most suitable stimulant is whis-
key, a tablespoonful, or wine glass full
may be given every two hours.
When the strength begins to fail with the
advent of [illegible], it may be —

-alternated in small doses with the mercurial should [illegible] may be continued with moderately [illegible] of turpentine? [illegible] the evidence of a decided failing of the vital powers, the ammonia may [illegible] by [illegible] [illegible] use.
Opium is a valuable remedy in the latter stage as a stimulant; it alleviates nervous symptoms, checks the diarrhœa & induces perspiration. It may be given in ½ to 1 gr doses at intervals of four hours or longer. But should opium aggravate the symptoms it must be withdrawn. Tonics may often be combined with the stimulants, and when the diarrhœa is not great may be substituted for them. The [illegible] [illegible] [illegible] [illegible] of nitre may be tried and if [illegible]—

to the Stomach used; the Sul quinia may also be given in connection with Serpentaria. When the skin is cool with clammy perspiration, stimulation should be resorted to in connection with internal means. [illegible] oil of turpentine, Cayenne pepper, heat, brandy, or aqua ammonia properly diluted should be rubbed upon the body, spine & the extremities; hot fomentations, sinapisms & blisters should be applied. The danger of sloughing from excessive stimulation to the extremities must be guarded against. The local affections demand important notice. In violent delirium or Coma the head must be shaved & a blister applied — this remedy should not be delayed too late as often happens. to quiet [illegible] agitation [illegible] —

-stimulants such as assafoetida [illegible]
Camphor. Musk is used with [illegible]
especially [illegible]
from the [illegible]
treated with opium combined with one
of the vegetable astringents. If [illegible]
[illegible] fail to check the spitting, [illegible]
[illegible] must be [illegible]
and anteriorly.
For the alarming pulmonary congestion
of the advanced stage dry cups [illegible]
be applied — the patients [illegible]
[illegible]
[illegible]
[illegible]
fiction, the position of the patient
must be frequently changed, [illegible]
[illegible]
parts affected [illegible] —

-produced by decomposition. The state of the bladder, then is to be attended to, and if there be retention of urine, it must be drawn off by a catheter.

I have now finished the treatment as far as medicines are concerned, and the one that is most successful, although other eminent practitioners have treated it differently and with success — It has been treated with emetics followed by purgatives, acet. lead, quinia, mercury &c.

Strict attention to the proper diet is of the utmost importance — In the early stage the diet should be liquid answering the purpose of both a nutrient and drink; such as barley, rice, or toast and water — Cool drinks, as lemonade, ice water in small quantities, &c — When the symptoms of debility appear —

– the diet [illegible] and stimulating; such as tea—spices, arrow-root, thick gruels or panacea with some agreeable flavour, and not [illegible] wine – A wineglass full may be given every two hours, or according to the strength of the patient – A cup of tea with crackers or dry toast may be taken morning and evening, & [illegible] applicable [illegible] –

In the second stage the diet must be both nutritious and stimulating – Animal broths or jellies, and in the severe cases of prostration egg beat up with wine, brandy, punch &c. – Strict attention to diet must be at[illegible] to, also cleanliness, and ventilation of the atmosphere cannot be sufficiently [illegible] –

-the Constitutional or Chronic Stage-
[illegible] [illegible] [illegible] to- Convalescence req-
uires close watchfulness, the bowels must
be kept open by the gentlest laxatives-
For the relief of [illegible] [illegible] the [illegible]
action [illegible] [illegible] bitters- [illegible]
is [illegible] [illegible] [illegible] of the
alimentary canal, [illegible] [illegible] [illegible]
daily [illegible] [illegible] [illegible] night,
for this condition nothing is better
than quinine - the patient should not
indulge in anything but [illegible], and
easily digestible diet, [illegible] taking
no fatiguing exercise, but should [illegible]
[illegible] to his former [illegible] [illegible]
gradually resume his [illegible] business-
I have now concluded the history of
the [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]

— [illegible] of the [illegible] [illegible] to [illegible] [illegible] to learn its [illegible] extent of their mischief, an[illegible] [illegible] speutic means in its vari[illegible] [illegible]

Finally, in presenting this [illegible] [illegible]

[illegible]

[illegible]

February 18[illegible]

An

Inaugural Dissertation

On

Fractures Of The Femur

Submitted to the Examination

of the

Provost Regents And Faculty Of Physic

of the

University Of Maryland

For The Degree Of Doctor Of Medicine

by

Joseph Anthony Pacetty

of

Florida

1858

As a candidate for the degree of Doctor of Medicine, and in compliance with the regulations of the University of Maryland, it becomes my duty to write a dissertation upon some one of the almost countless subjects which are constantly being brought under the cognizance of the student; Yet Knowing full well my want, both of Knowledge and experience, I enter upon the task imposed upon me, with the diffidence inherent on a Maiden essay, trusting that the "critics eye" will pass lightly over my imperfections.

After long hesitation, and mature consideration, I have selected for my theme Fractures of the Femur, a subject fraught with interest, and one well deserving the attention, and profound research of him who may aspire to eminence, in our Noble profession.

The signs and symptoms by which Fractures of the human subject may be distinctly located, thereby

rendering the surgeon more successful in his efforts to repair the injury - constitute an enquiry of no little importance.

Want of Knowledge, incorrect diagnosis, and blundering application of the necessary splints and bandages, may cause a life time deformity in God's most perfect work, and blast for all time the reputation of the attending physician, whose character and Knowledge is scrutinized with a jelous eye, and whose opinion in the community bears with it such a mighty sway, whether it be for good, or for evil.

In passing then to the consideration of my subject I feel that I cannot offer aught of importance, other than has been my future to note down, during the pleasant and instructive hours I have had the happiness of devoting to your lectures.

Fractures are termed a solution of continuity in a bone, divided into three classes or species, viz. Simple, Compound and comminuted.

We pronounce a fracture simple, when no wound is visible externally, in other words a mere seperation of boney fibres. A compound fracture is somewhat more complicated, being conjoined with bone making its appearance through the soft parts, or external injury. In comminuted fracture, the bone is crushed or broaken in several pieces, attended very often with much external injury. Besides, in connection with these varieties, we have what is termed a complicated fracture, large vessels and nerves being involved, or an open state of a joint, lacerating and bruising the soft parts to considerable degree.

In fractures other terms are employed, to express the particular direction, in which the fibres

of bone happen to yield, thus we have Oblique, transverse and longitudinal fractures. When a fracture deviates from a perpendicular direction, it is denominated Oblique. Transverse, when perpendicular to the axis, and longitudinal when the fracture runs parallel with the axis of the bone.

The parts of the boney structure most liable to fracture, are the long bones of the superior & inferior extremities, and the clavicles. The flat bones, with the exception of those of the cranium, are less susceptible of injury, and seldom give way except under great violence, both direct and severe.

As the long bones, particularly those of the femurs will comprise the field or boundary in which my thesis will extend, I will proceed to define the predisposing causes, not only of the femurs, but of bones generally, as a better idea of the causes of fracture

can be obtained when treated thus. Yet the remarks will be more particularly to point out – as stated above, – the predisposing causes of fractures of the femurs. A confirmed cancerous diathesis, or persons that have been labouring under Syphilis for a long period, are more liable to fractures. The explanation offered is that a change takes place in the bonny system, it being acted upon by the virus of the above mentioned diseases, "for we are aware that it contaminates the whole system as well," and destroys the substances that are provided by nature, the earthy matter, the bones are thus made brittle from the very fact that they do not receive their nutrition and earthy coat, on which in a great measure their strength depends. By many more particularly the uninitiated, Cold is considered to exert an influence towards the brittleness of bone

and that is why so many fractures occur during the winter months, but the facts stated above and another disease we can offer "Fragilitas Ossium" will overbalance this absurd idea, and sufficiently prove to the scientific world, that other morbid excitements are implicated in fractures during the winter months, besides cold; Though the fact that fractures are more frequent in frosty weather, would not require much argument to expose the point, as it must be evident to all observers, that the increased liability to falls would have a tendency to increase fractures. Among other predisposing causes, old age might be considered the most prone, particularly among old females, and the bones most exposed are the femurs, which are the most prominant part of their structure. The bones are more brittle in old age, and give way under amounts

of violence which would have little disturbed them in their younger days, as we have witnessed cases among youths where blows have been inflicted, either by falls, or otherwise, causing partial fracture, which in old age, would undoubtedly have been complete. Bending and partial fracture, is by no means uncommon among children.

Shortly after I began the study of Medicine in Charleston South Carolina. An infant was brought into the office, with a depression of the cranium, in circumference equal to an American half dollar, caused by the carelessness of its nurse, who suffered it to fall on the pavement head foremost. The child laid quietly on its mothers lap for three quarters of an hour, and presented no symptoms of suffering in any form whatever, my preceptor "Dr. Pritchard" was out at the time

and I being purfectly ignorant of the amount of injury done, and treatment necessary, could offer no assistance which would guarantee a good result, therefore under the circumstances I determined to let nature extend its aiding power towards repairing the injury, and happily it resulted well, for in a few moments the depressed part suddenly assumed its natural position, with what seemed to me great force, which of course dispelled all further anxiety. I saw the child after the elapse of some time, and the Mother told me, no bad effects resulted from the injury. In this case there was evidently no solution of continuity, as the child was young and the bone had not become fully developed, and the action of the brain was exerted with enough force, to alleviate the compression. I might mention other predisposing causes, but of no avail, therefore I will consider in the next place, the exciting causes

which are two. Firstly external force, Secondly muscular action. The force that causes the injury may be direct as by a blow received on the part fractured, for instance the clavicles has been fractured twice by direct violence under Prof A.K. Smiths observations. We have alas indirect force producing fracture as a fall on the shoulder, which sometimes transmits sufficient shock to the clavicles to cause an Oblique fracture. Again, bones may be fractured by the contractile power of muscles alone, as when the patilla or olecranon is snapped across during the intence muscular effort exerted in trying to save oneself from a fall, alas the radius gives way under attempted feats of srength, but the humerous, femur, or any other bone may give way if preternaturally weak, under similar circumstances.

In the next place I will point out the symptoms of fracture, which constitute essentially, three, the most

positive and reliable of them is no doubt Crepitus, a term employed to express the symptom of sensation imparted to the hands and ear when the fragments are moved one upon the other. The sensation imparted is of a grating and crackling character, but wanting sometimes in cases of transverse fracture, particularly where there is much displacement, and when the fractured ends are completely overlapping, but to obviate the difficulty, we draw down the fracture, in other words we make traction, bring the parts in apposition and to their relative position and crepitus will be distinctly heard.

The second essential symptom is deformity, such as bending or twisting of the injured limb, will become apparent to the observer at the first glance. Preternatural Mobility constitutes the last of what have been termed, very properly the essential symptoms, and we recognize it by one end of the bone moving independent

of the other, and the surgeon can move the limb in dir=
ections, and to an extant of which it was previously inca
pable. In addition to these symptoms, other character=
istics will present themselves, aiding to a degree in
pointing out clearly the site of the injury. These are
helplessness of the injured part, where voluntary motion
is abridged, and the patient of himself can move the
limb but little if at all. Swelling predominates to a
greater or less extent according to the size of the vessel
ruptured, it is caused by the blood accumulating ar=
ound the fractured bones, and also becoming infiltrated
into the surrounding tissue. But the immediate swelling
is no doubt caused by the overlapping of the fractured bones,
and the relaxing of the muscles causing the bulging into
which they are thrown. Pain is also one of the diagnostics
becoming great and constant particularly if either frag
ment comes in contact with any nervous branch, or

puncturing the soft parts, causing sometimes spasmodic twiching of the muscles implicated in the injury.

Concluding what we might think necessary to say on the predisposing causes, and the exciting causes of fractures generally, also of its symptoms, we will next consider fractures of the Femur, with its varieties.

This bone presents many varieties of fracture, being sylindrical in form it can be used favourable in many ~~many~~ instances as a lever, and not being able to sustain the amounts of force required at different periods, it is often fractured into many different places as the head, neck, shaft and condyles, either in a transverse or oblique direction. Fractures within the capsule are considered the most common, and met with most frequently among old females. indirect force is most likely to produce such fracture, a counter stroke, or a very slight twist of the pelvis or thigh in old persons, will

be sufficient to produce such fracture in many cases. Prof N.R.Smith reports two cases that fell under his observation, the patient was a lady who triped up with the carpet, "in walking across the room" and fell fracturing the femur, some time after, the accident occured the second time, under similar circumstances. This kind of fracture is generally evident to experienced observers, in no great length of time, the principle signes are very much shortening of the limb, foot turns out, with the heel resting on the ankle of the other leg, and the shaft of the bone lodged in the ilium. Crepitus will be detected, if the hand or stethoscope be placed on the trochanter, whilst the limb is drawn to its proper place and rotated. The limb can be restored without difficulty to its natural length, but reascends as soon as the extension is discontinued. Other

symptoms have been enumerated, but considering these would be sufficient if taken collectively, I will pass on to consider fractures of the neck exterior of the capsule, which resembles the other in many features, only differing in a few points, always caused by direct force, such as falls, blows on the hips, also occuring to persons of any age, and not attended with so much shortening and eversion, crepitus can be felt easier than in the former case, because the shortening is not so great. Oblique fracture through the great trochanter, is attended with little shortening, everted limb, and the shaft of the bone can be felt widely seperated from the trochanter, the accident has no definite period, as it occurs at all ages.

Fractures of the femur just below the trochanters, are liable to great deformity, as the Iliacus Internus and Psoas Magnus, two powerful muscles are inserted

into the posterior portion of the trochanter minor, they tend to draw the superior fragment upwards and forwards, causing injury to the soft parts surrounding. The portion of the femur most liable to fracture, is perhaps its middle. It may be either compound, simple or complicated, but the bone is so covered on all sides that compound fracture occurs rarely at this point, compared with the simpler form.

The signs indicative of this fracture corresponds in most respects with those mentioned before, perhaps the deformity is greater on account of the abductor muscles having a tendency to draw the ends outwards, particularly if the fracture be oblique, and when the inferior fragment is drawn upon the posterior surface of the upper fragment. When towards the lower extremity, the condyles may become involved, and seperated from the shaft, rendering

such injury complicated. In most cases crepitation will be distinctly heard together with shortening of the limb, and pressure made on the patella will increase the breadth of the Knee to such an extent, that the accident can be distinctly distinguished from any other.

The reparation of fractures have been discussed for a long period and different conclusions have been arrived at, some contend that no provisional callus is formed, whilst others believe that such provision of nature happens, amongst them are Prof. R. Smith and what I draw from his instructions evidently show that such provisional callus is formed, and until I am convinced otherwise, will maintain the same views so distinctly pointed out by him.

After a fracture is produced, blood is effused, either from the periosteum, Medullary Membrane,

or from the tissues around, however it is sufficient for us to know that blood is effused at the seat of the fracture. The parts around become distended into a kind of pouch, surrounding the ends of the fractured bones. The distension is caused by the amount of fluid effused, which becomes partly coagulated after a short time. The blood that occupies the cavity of the pouch becomes absorbed, also the ends of the fractured bones, depriving them of their earthy matter to a great extent, and so preparing them also for higher efforts as a vascular tissue. Liquor Sanguinis is effused from the parietes of the pouch, from the ends of the bone, and from the periosteum, which invests them, this plasma now assuming the position that the blood occupied. The pouch has however, contracted from its first dimentions, by lumescence of the parietes - favoured or at least permitted,

by the gradually decreasing extravasation. The plasma having been exuded, consolidates, the serous portion is absorbed, but the fibrinous remains, and becomes organized. this organized plasma, not only occupies the pouch, but is situated between the fractured ends of the bone, and in the interior. At the same time, fibrinous exudation is taking place in the soft textures exterior to the pouch, whereby they are still further condensed and tumefied. After eight or ten days, the period of plastic exudation may be said to have passed. Then the process of organization advances, for the plasma becomes vascularized and passes into the transition state of cartilage. contracting by interstitial absorption, the mass increases in density, and gradually passes into the condition of bone. As the ossification advances, the mass contracts more and more, ultimately forming

a firm osseous ferule by which the fractured ends are firmly clasped, and the continuity of the bone is apparently restored. This ossified mass is termed the provisional callus, and the period of its formation averages from four to six weeks. At the end of this time, the bones feel firm, for the fractured ends are firmly held together by the ferule, but in truth, they are yet disunited, there is no real continuity of their texture. When the formation of what is called the definitive callus is formed, continuity is then truly restored. This definitive callus is no doubt chiefly furnished by the exudation of an exuplastic kind, from the softened extremities of the bone, and is lodged in the interior of the fractured ends, and space which seperates them. As the construction of the definitive callus advances, the provisional gradually diminishes by absorption, the

latter being merely subservient to the former, and indeed may be termed Natures Splint, whereby the parts are kept in close and undisturbed contact, until their real consolidation shall have been completed.

The provisional callus, then at this advanced stage, cannot be of service, on the contrary acting perhaps as a foreign substance, therefore the absorbents set to work and remove the exterior scaffolding, also restoring the soft parts around, nearly or altogether, to their normal structure. Thus, not only is the bone truly and firmly reunited, but the symmetry and usefulness of the parts are also restored, and generally requiring to become complete, not less than six months, and in many cases a much longer period.

After all that has been said regarding the process of repair, it becomes obvious that it consists of two great parts, first the provisional callus, second the

substantial restoration by the definitive callus.

But in all fractures both these parts are not present, for instance in fractures of the cranium, or a fracture of the neck of the femur, within the capsule, yet cases have been reported, and one by Prof Geddings of South Carolina, in which he states he treated a patient for such fracture, and when he recovered, he was of opinion that bony union was accomplished, however, some years elapsed and the patient died from disease, and having an opportunity, he examined the neck of the bone, and it proved to him fully that a bony union had actually repaired that injury. The conclusion we draw from such authority as Prof Geddings, leaves us without doubt, that bony union happenes in more cases, than credit is allowed at present, yet it seems very natural to me, that if bony union happens in

one case, it should do so in others. But in cranial fractures, should such provisional callus form, distinctly show that the bulging hard matter pressing on the brain, would assuredly interfere with the functions of that organ, to a dangerous extent.

Therefore reflecting on the matter in my own mind enables me at once to decide that the alluvial works of nature were not intended to impare nor mollient the superior centre of her own structure, but Knowing that injuries could be repaired in that region by the definitive callus, by which process all such cranial injuries are repaired. If not entirely bony union takes place for the present, or even later, the ligamentous union gradually becomes ossified, or, it may, increase in density to such an extent, as to offer equal protection to the brain, partly as

account of its elasticity which would make it less liable to yeald, than new bone under renewed violence.

The treatment of fractures includes attention to the reduction of the fragments to their proper position, retaining them so, and preventing redisplacements by the application of some one of the various mechanical contrivances now used for that purpose. First fractures of the femur may be reduced by the surgeon taking hold of the distal aspect, whilst the upper is firmly and steadily held by an assistant, when traction is gently made in such direction as will most likely restore the limb to its natural shape and length. After this retention is generally accomplished by the fulfillment of two obvious indications. First, to get the limb in such position as will relax the muscles that

cause the displacement, and secondly by applying such splints and bandages as are particularly adopted to the injured part. These splints are various by constructed, for instance the inventions of Desault and Pott, and in this country – I believe – the apparatus of Desault modified by Physick. A few years since Prof. N.R. Smith contrived a very simple apparatus, which he has termed the "Anterior Splint" and which is preeminently valuable in the treatment of these fractures. This splint is constructed either of wire or of wood, the wire splint is however preferable, as it has the advantage of being easily adapted to the curvatures of the limb. There are two little hooks by which the cord extending from the ceiling, is attached, and the suspension made.

In his lectures on this subject, the Prof. distinctly and convincingly explains the superiority of

the suspended apparatus over all others. He says, "no matter how firmly the limb may be bound to other Splints, the fractured end cannot be kept in strict apposition, consequently the great numbers of distortions and deformities, attributable to the fact, that, the upper fragments cannot be made to retain its true position, whilst the lower one is so tightly bound, when every movement the patient makes in bed, turning or twisting the pelvis, or sliding down, necessarily draws the upper fragment on the lower, and in which position they are often allowed to unite."

Having been a private student of Dr. Smith's for the past twelve months, frequent opportunities have been afforded me of witnessing the application of his apparatus, always with the most astonishing & happy results, thoroughly convincing the most

skeptical of its vast superiority over all others.

Besides the perfect symmetry of the limb after recovery, this apparatus has other important features highly recommendatory to the profession viz its cheapness, simplicity &c. The mode of application is first to bend the apparatus to correspond with the shape of the limb and pass a bandage around its entire length, then place it on the Antenior part of the leg, having it reach from the pelvis to two or three inches beyond the toes, when the robber is applied, begining at the toes, and extending upwards, taking two or three turns around the pelvis, a compress is often necessarily required, to prevent pressure of the instrument upon the foot, and its attending consequences. The cord being then attached, traction is made and regulated

according to circumstances. The cord may be rendered more or less Oblique by raising, or running, the foot of the bed. The more Obliquity, the more traction, & vice versa, the patient head if too low, can be raised by an extra pillow. It cannot be otherwise than, that the patients should experience more comfort under this mode of treatment, than any other; for the leg retains its natural position, and is suspended by the simple bandage, which tend to support it on all sides, particularly by the lateral pressure.

Another and perhaps still greater advantage is the fact that, in compound fractures, the extra bandage necessarily employed, can be taken off, and reapplied in dressing the wound without disturbing the arrangements of the apparatus.

Constitutional Treatment must be regulated according to the symptoms. When we have every indication of inflammation supervening, precautionary means should be adopted to prevent its excess. The patient should at once be put on low, yet not strictly antiphlogistic diet. If there be sensation of pain, heat, and throbbing in the injured part, with restlessness, flushed face, and acceleration of pulse, blood may be taken from the arm in proportion to the constitution of the patient.

In compound fracture, the dangers to be apprehended, which the surgeon will often find necessary to combat against with energy, are threefold, first, haemorrhage may follow the injury in sufficient quantity to endanger the life of the patient, secondly inflammation, and thirdly hectic fever caused by excessive suppuration.

In complicated fracture when large vessels and nerves are involved, the soft parts lacerated to a considerable degree, or an opened state of a joint; it becomes an important question whether or not immediate amputation would be justifiable. By delaying, gangrene would no doubt supervene, and amputation would have to be resorted to at a period when the patients condition is not so favourable. A strict antiphlogistic treatment must be resorted to in anticipation of inflammation, such as bleeding antimony &c. unless contraindicated by extreme age and debility, when tonics, wine and generous diet is necessary. Should any specule of bone happen to appear at the site of the fracture, they should be removed at once, as they act as a foreign substance and continually irritate the part.

I have extended this thesis to a much greater

extent than I had intended, attributable to my want of time at this late hour to make it shorter. I am well aware that a great many imperfections may be found in it, but as it would be superfluous to make any apology. I will close by most respectfully soliciting the indulgence of your honorable body.

An inaugural dissertation

On Hernia.

Submitted to the examination
of the

Provost Regents & Faculty of Physic
of the

University of Maryland,
For
the Degree of Doctor of Medicine.
by

Edward F. Gilchrist.

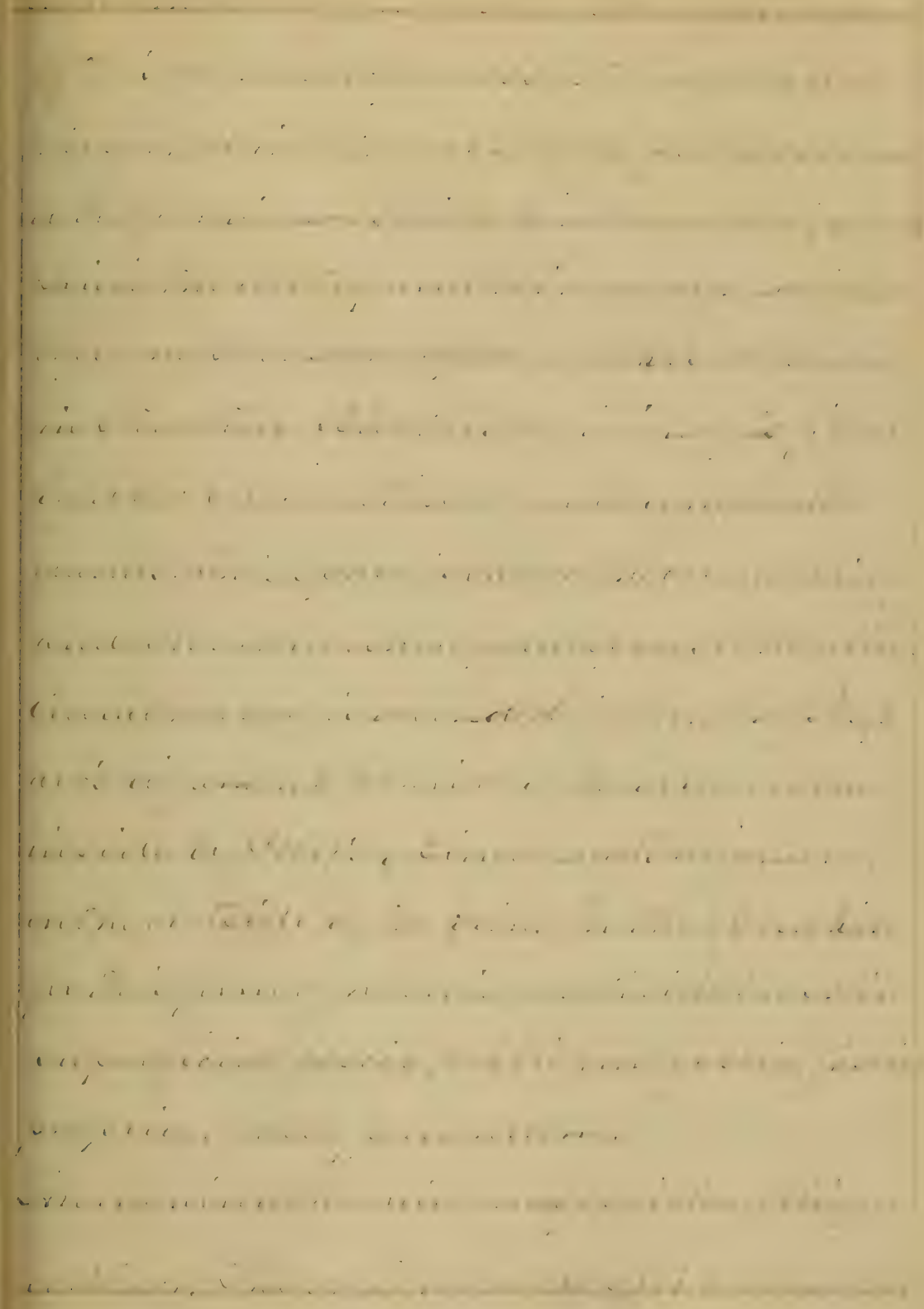
1858.

Hernia

The protrusion of any viscus from its [illegible] cavity [illegible] denominated a hernia. [illegible] generally contained in a bag formed by a [illegible] which the cavity is naturally lined.

Several parts of the body afford examples of [illegible] [illegible] the bones of the head [illegible] allow the protrusion of [illegible] from the [illegible] to the outer side of the skull [illegible] a hernia of this [illegible] intercostal [illegible] permit part of the [illegible] [illegible] nia of the contents of [illegible] frequently occur [illegible] and on this account [illegible] in a medical [illegible] [illegible] Many reasons may [illegible] [illegible] of protrusion [illegible]

Anatomy.



right [illegible]

[illegible]

be carried [illegible]

the [illegible]

his will [illegible]

[illegible]

[illegible]

higher up than [illegible]

upwards & inwards. [illegible]

of strictures, which are [illegible]

introducing [illegible]

is to be made [illegible]

and turning [illegible]

dressed in [illegible]

[illegible]

ded to, treating an [illegible]

[illegible].

Edward Francis [illegible]

[illegible]

Ind.

An Inaugural Dissertation

on

Hæmostatics

Submitted to the Examination

of the

Honorable Regents and Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

John Richard Thomas Reeves

1858

Hæmostatics.

Under this head I design to treat, as concisely as may be, of the various appliances, mechanical as well as medicinal, for the Arrestation of Hemorrhage -

Without a knowledge of the means adapted to this end, & without the ability promptly & efficiently to apply this knowledge when the occasion may arise, no practition-er can hope to achieve a moderate amount of success in his profession - If there be any one subject in the whole range of our extensive profession, upon which more than all others, the Surgeon should have at Command, the greatest amount, & that of the most available kind & variety, of resources it is beyond a doubt this of

arresting Hemorrhage -

He is suddenly called to see a man who, by accident or design, has received a dangerous wound from which, when he arrives, the life-blood is streaming in a resistless torrent; all ordinary means, such as are usually applied by unprofessional assistants, have been tried & have failed: the patient & the patients friends look with confidence & trusting hope to the arrival of the Surgeon, who is presumed to have under his control other & more powerful resources -

Or it may be that he will be called upon to exercise his skill & tact to arrest a flow which he himself, in the plenitude of his wisdom, has deemed it necessary to excite, as for instance after amputation of a limb or extirpation of a tumor -

Important & indispensable as such knowledge may be, & indeed is, to the Surgeon strictly so called, it is but little less so to the general practitioner, whose purpose it is to

devote himself more particularly to the therapeutic management of disease leaving as far as may be the province of Surgery to its more legitimate professor.

But it is impossible so to isolate the separate departments as to define, clearly & unmistakably, where the one begins & the other ends. — And hence it is that it becomes so essential to the success of the general practitioner to be able to apply such means as are best known to the profession for the arrest of Hemorrhage. To illustrate. He is in attendance upon a child in whose case he has deemed it necessary either to remove local Congestion or to procure depletion where general blood-letting is inadmissible, to order the application of leeches to the little Sufferer. The order is executed & at his next visit he finds indeed the local Congestion removed or the desirable amount of depletion procured, but he finds also the blood still oozing from the bite

bites - If he is aware of the fatal consequences that may ensue from such an apparently trifling affair, he will at once perceive the necessity of attending to this condition

So that we see to the Medical Practitioner whose daily walk of life may not lead him further than the bedside of the Sufferer, no less than to the Commissioned Surgeon whose Sphere of action may extend to the field of Carnage,

"Where Streams the life-blood warm & wet
Upon the glittering bayonet,"

is a Knowledge of the various Haemostatic appliances an essential element of Capacity for the Successful prosecution of our noble profession -

But if, as we have seen, Such Knowledge is thus essential to the Surgeon & to the physician, what shall we say of its importance to the accoucheur! To the accoucheur, the friend, the adviser, the Counsellor, the

comforter & it may be her very Savior, in lovely woman's
dark hour of Sorrow & travail!

How immensely important to him is it that he should
be competent to put in requisition at a moment's warning
the most efficient appliances for the Arrest of Hemorrhage.

But it would Carry me much beyond the limits I have
assigned myself on this Subject to take a thus extended
view of it and I therefore propose to confine myself
to the Consideration of those appliances which it is more
particularly the province of the Surgeon to have at Command.

In treating on this subject the inquiry first arises
How are we best to understand & appreciate the ap-
plication of this important knowledge? To answer
this inquiry involves the Consideration of that principle
which is the very Keystone of the arch that Supports the
whole fabric of our profession both as a Science & an
art. "In Imitatio Naturae" is an inscription

worthy to be ~~placed~~ stamped in letters of gold on the temple of Æsculapius that all who seek to enter there shall carry with them to its innermost recesses this sublime truth. And in no one branch or department of his profession is it more necessary for the Surgeon to bear this in mind than in this which we are now considering. The,

"keen eyed Searcher of the nature's laws"

must first seek to rend the veil of obscurity which hangs over all her operations & trace out as far as possible the successive processes by which she accomplishes this great result.

These processes are what?

1st An alteration in the Constitution of the Blood.

2d Diminution of the pressure of the blood on the inner coats of the artery brought about by a diminution of the heart's action.

3rd Changes which are effected in the artery itself -

1. The alteration which takes place in the Blood is an increase of its plasticity, as shown by the tendency it has as it flows to glaze & coagulate about the cut vessel, thus affording a mechanical obstacle to the further escape of blood from it

2. The Syncope which is the consequence of a sudden abstraction of blood exercises a very material influence in arresting the flow - By this occurrence the propulsive force is either entirely suspended or greatly diminished & as a consequence one great obstacle to coagulation viz: motion of the blood, is removed -

Time & opportunity is also afforded by this for the working out of the third & last class of processes viz: the changes which take place in & about the artery itself, the formation & deposit of Coagulum upon which the final arrest of the bleeding is dependent -

The changes effected in the artery itself are

1st Retraction of the vessel within its sheath.

2nd Contraction of the Cut Artery.

3rd Formation of the External Coagulum.

4th Formation of the Internal Coagulum.

1. The Cut artery immediately retracts within its sheath, the interior of which is thus kept rough & even. The blood, as it flows over this roughened surface becomes entangled in its fibres & tends to Coagulate upon them, which tendency to Coagulation is favored by the increased plasticity of the blood as it flows & the diminution of the propulsive force. From the Conjoined operation of these Causes results the formation of an Coagulum artery, which tho' lying in the sheath is external to the artery & hence is called External Coagulum. The formation of this External Coagulum seems to be in great measure dependent on the retraction of the ar-

very within its sheath & constitutes the first barrier to the hemorrhage. The next change which takes place & indeed simultaneous with the above is one which is often in itself sufficient to arrest bleeding from small arteries. This is Contraction of the Cut artery. This change takes place gradually & just in proportion as the artery contracts in diameter & the flow of blood is mechanically impeded by the external Coagulum, does the difficulty with which the blood is propelled through it increase until at last we find it issuing in but a small & feeble stream or even becoming completely at rest, which allows its fibrin to be deposited in a slender Coagulum.

This is the Internal Coagulum, & to its formation the gradual contraction of the open end of the artery seems greatly to contribute. This internal coagulum however does not play so important a part in the temporary arrest of Hemorrhage inasmuch as this object is

has been in great measure accomplished already by the retraction of the artery, the formation of the external Coagulum & the Contraction, all which take place before the internal Coagulum is formed - It seems to act principally as a damper to break the force of the wave of blood against the cut end of the vessel -

Having thus cursorily viewed the means employed by nature for the primary arrest of hemorrhage it will be necessary to advert to those by which She seeks to accomplish the permanent occlusion of the bleeding vessel -

This is effected by two processes

1st - Adhesive Inflammation is set up in the vessel & surrounding tissues

2nd - The artery Continues to Contract

In the progress of the first step, lymph is effused from the cut Surfaces That which is

thrown out within the vessel forms the most important part of the internal Coagulum & is the Chief agent in the Closure of the vessel - That which is at first thrown out by the Sheath & surrounding parts is at first mixed up with the external Coagulum; the coloring matter of this latter is however gradually absorbed leaving the plastic matter accumulated in a mass & completely blocking up the vessel from the outside -

The Second & last process, one through with is one which is the Constant Concomitant of, & occurs Simultaneously with the first - Under the influence of the inflammation which is set up in & around the bleeding vessel the artery Contracts gradually & Continuously until it firmly embraces the included Coagulum, so firmly that it would at first appear to be adherent to it - The ultimate change which

takes place in the artery is its transformation into a dense fibro-cellular Cord up to its first Collateral branch -

Having thus traced out the progressive processes by which nature seeks to accomplish not only the temporary but also the permanent arrest of hemorrhage, we are now prepared to take up the consideration of the Surgical treatment of hemorrhage from wounded arteries -

Here the Surgeons guiding star must be the "Vis imitatio naturae" knowing the processes adopted by nature for the suppression of arterial hemorrhage, his object must be to assist & accelerate these or to excite analogous ones. Every thing he does can only act by increasing the Contraction & Retraction of the arterial Coats or Supply an artificial Coagulum or excite adhesive inflammation in and

around the bleeding vessel—

And what are the means best adapted to accomplish these objects? For temporary purposes Compression either by the finger of an assistant or more commonly by the tourniquet is all that is necessary to command the flow—

The great army surgeon Mr Guthrie, says that no man need fear bleeding from an artery upon which he can lay his finger—

For the permanent arrest of Hemorrhage the different means that may be employed, & which are all sometimes put into requisition successively are; 1st. Application of Cold—2nd. Styptics—3rd The Actual Cautery—4th Pressure. 5th Torsion—6th The Ligature—

The Application of Cold is frequently sufficient to control the oozing of blood which sometimes takes place from cut surfaces— The mere exposure to Cold air will often suffice to arrest the flow which has continued so long as

the part has been kept covered with pledgets & bandages.

When this does not succeed cold water applied by means of a soft piece of lint, or what is better, by allowing a small stream of cold water to run upon the part will cause rapid contraction of the vessels & consequent cessation of the bleeding. Another most efficacious plan for the application of ~~the~~ cold, particularly where the bleeding takes place into some of the hollow cavities, as the rectum, vagina, &c, is in the form of ice.

2. Styptics are powerful adjuvant means for arresting Hemorrhage, since they act not only by producing contraction of the vessels, but also by increasing the rapidity of formation & firmness, of the coagulum. A great advantage we derive from their use is that we are often enabled to utilize them where other applications cannot be readily made. The most important agents of this kind are, Zinc. Ferri. Mur.

Acetas Plumbi – Oleum Terebinth. – Gallic Acid, &
Matico – Argent. Nitras – Sulph. Alum, Potass. –

Of this class of agents however we may here remark that they find their more legitimate sphere of usefulness in those Hemorrhages which are recognised as Passive in their Character –

3. The Actual Cautery, tho' much less frequently utilized than formerly, is undoubtedly a very powerful & efficient means of arresting Hemorrhage – It is now seldom had recourse to except when all other means have failed, or when the bleeding is from a broad surface where there appear to be many points bleeding etc which we could not apply the ligature – There is one point in regard to this that we must bear in mind when employing this means that is, that the actual Cautery arrests the bleeding by blocking up the bleeding orifices with a thick

Slough or escher & there is always to be apprehended a re-currence of the Hemorrhage (Constituting what will hereafter be treated of under the title of Secondary Hemorrhage) when this Slough Separates which will be about the 6th or 8th day -

4- Pressure upon the bleeding part is a means upon which we may rely with a great degree of Confidence when the bleeding is from small arteries - Its Sphere of action however is somewhat limited inasmuch as it is essential to its applicability that there should be an adjacent or subjacent bone against which the pressure is to be made - & hence it would be inadmissible in certain regions of the body, as the throat or perineum -

Pressure may be applied in various ways - The uniform Compression of a bandage alone will often suffice, but if not, a weight upon this, as a

Sand bag laid upon the part, will further add to its efficacy. When the flow takes place from the rectum Vagina, or nares, it may often be checked by a bent of Sponge or lint to which a styptic may conveniently, & sometimes with great advantage, be added

But decidedly the best, most elegant & most effective mode for the application of Pressure is, by means of the Graduated Compress. This method is especially applicable to wounded arteries of small Size, lying over bone, as the temporal, or brachial or where the artery is so deep-seated that it cannot be reached for the ligature or so diseased that the ligature will not hold. The Graduated Compress is made of a Series of pledgets of lint of a circular shape gradually decreasing in Size. It should be applied with its pointed extremity resting over the wound in the vessel. It acts by exciting adhesive

inflammation at the point where the pressure is made.

A very neat & efficacious mode of applying pressure when the palmar arch is wounded is to place one Compress on the wounded vessel, another on the back of the hand & then laying a proper Cutter or Strong Splint on each Compress transversely across the hand, bind the two ends firmly together—

5. Torsion. As to Torsion it is barely requisite to mention that such a mode has been & may be practiced, but it is now rarely, if ever, adopted, since there are other more practicable & more reliable means at our Command—

6. Ligature. Of all the means & appliances known to our art for the arrestation of Hemorrhage from wounded arteries, by far the most important, the most reliable, as well as the simplest, is the Ligature.

In Ambrose Paré, of the French School

one of the greatest & brightest ornaments of Surgery is mankind indebted for the substitution of this humane appliance for such barbarous unsurgeonlike measures as the application of boiling oil or pitch or molten lead, the vitriol button, & the performance of operations with red hot knives — No event in the whole history of Surgery — save only the more recent discovery & introduction of the great — Anaesthetic — can be considered so great a boon to suffering humanity as this — But for more than two Centuries after its first introduction did the operator remain in ignorance of the physiology of the processes by which nature accomplishes the occlusion of the artery & the detachment of the thread: & hence it was that frequent cases of failure were recorded, the bleeding being temporarily arrested but the patient eventually losing his life by the re-

currence of Secondary Hemorrhage -

It was not till the year 1805 that it was clearly ascertained, by a Series of admirably Conducted investigations, what the Rationale of nature's process was. Since that time however, thanks to Mr Jones! the operator is enabled to proceed understandingly in the adoption of this means & can trace out, with unerring Certainty, the progressive steps that nature takes for the accomplishment of her end - The very Condition which was so greatly dreaded by the older Surgeons Viz; the Sloughing of the two inner Coats of the artery & the excitement of adhesive inflammation, is now known to be that very one upon which the final Success of our operation depends - And while they of the old School sought to avoid the production of such Consequences by the employment of "ligatures of Reserve", as tied slack, and

broad tapes, & by the interposition of rolls of lint or plugs of Cork between the thread & the vessel, we of the present day, rely for a favorable issue upon the application of a Single thread, & that of sufficiently small Size to Sever the inner & middle Coats of the artery when lightly drawn —

In the performance of this operation there are several very important rules to be observed —

In the first place it is not advisable to rely upon a Single ligature applied to the cardiac Side of the wounded Vessel there must be another to the distal extremity on account of the Collateral Circulation. Another rule is, to apply the ligature as near the Seat of injury as possible to obviate the occurrence of that Hemorrhage which results from the free anastomosis. Another most important rule is, to be Careful to include nothing but the

artery in the ligature since if a vein, or a nerve, or a portion of cellular tissue or muscular tissue should be grasped by the thread it would act, just as did the roll of lint or plug of cork of the older Surgeons, preventing the thread from embracing with accuracy the arterial tunics & from effecting the necessary division of their inner layers. while by their speedy absorption or sloughing (except in the case of the nerve, where the difficulty would be, not the too rapid sloughing, but the too long retention of the ligature) they would relax the noose, endanger its slipping & so give rise to Secondary Hemorrhage — The best material for the Ligature is ordinary Saddler's Silk, which should be well waxed & when applied, tied on the "reef-knot" & drawn as tightly as possible so as to ensure the division of the inner arterial tunics & the after Compression of the outer one — There is no danger to be apprehended

in a healthy vessel of dividing the outer or cellular Coat of the artery, & the Ligature should therefore be drawn as tightly as possible - One end of the ligature should be cut off & the other left hanging out of the wound - The mode of application of the ligature varies Considerably according to the Situation of the bleeding vessel - When the ligature is to be applied to a bleeding vessel in an open wound, it is all very "plain Sailing": the mouth of the artery thus simply to be seized & drawn forwards with a tenaculum or the Spring forceps & the ligature slipped around its extremity -

But when the artery is to be dissected in its Continuity the operation becomes much more Complicated, Since a great deal of Careful dissection is required to expose the vessel - In making this dissection the knowledge of the anatomical relations of the Struc-

tures of the part must be the Surgeons guide -

The artery being exposed & isolated, the greatest care being exercised in opening the Sheath, the ligature is to be passed between the artery & the vein, seeing to it that no vein, or Nerve, or portion of Cellular tissue is transfixed or included tied as tightly as possible in the "Reef-knot" & both ends Conducted to the Surface & left hanging out of the wound - The Common Aneurismal needle is all that is usually required for the passage of the ligature - Throughout the whole operation the utmost Caution & delicacy of Manipulation is required, but more especially, while exposing the Vessel, & in passing the needle - In favorable Cases we may ordinarily expect the ligature to Come away about the Eighteenth or Twentieth day -

Having thus Considered the various means

at our command for the Surgical Treatment of Hemorrhage from wounded arteries There remains but little to be added to this branch of our Subject except to mention the adjuvant means which should always be put in requisition to favor the operation of the other more important measures - These are, to Keep the patient in a state of perfect rest in the recumbent posture, the limb being elevated, & put him on low diet & diminish the propulsive force (as in some, tho' not all, cases it may be necessary to do) by the administration of internal remedies, such as Hyoscyamus - Opium, &c - which have the effect to ~~[illegible]~~ Subdue the Hearts action -

These adjuvant means, besides favoring the immediate Success of our more heroic expedients also very greatly Contribute to the production of an ultimate Happy result by preventing the occurrence of Secondary Hemorrhage, with a few remarks upon which I'd, pro-

pose to conclude this dissertation.

Surgeons apply the term Secondary Hemorrhage to the bleeding which sometimes occurs after the application of the Ligature. The causes upon which this bleeding depends, tho' various, may be arranged into two great classes viz: 1st. Those which originate from or are found in the artery itself or the mode of application of the ligature. 2nd. Those which are constitutional, or depend upon some Cachectic condition of patient's system which renders in atony all the efforts of nature to bring about the Changes which are necessary for the permanent closure of the wounded vessel. Of the first of these classes of Causes the one which is most frequently operative is a diseased condition of the artery which, in Consequence of such disease, will not hold the ligature long enough but allows it to come away before the occlusion of the vessel is at

jected. Another source of failure in some (tho' for the honor of our profession be it said very rare) instances is the including in the ligature something besides the artery, as muscular fibre or cellular tissue, which by too rapid sloughing & consequent loosening of the ligature gives rise to Secondary Hemorrhage —

The Constitutional Causes are: 1st. An original vice of Constitution, what is called the Hemorrhagic Diathesis, in which there is deficient Contractility of the arteries & deficient plasticity of the circulating fluid, a condition of things which when once ascertained to exist in any particular individual should render the Surgeon exceedingly careful to avoid, to the very last extremity, the performance of any operations —. 2nd. Those unhealthy states of System in which any inflammatory disease, diffused or erysipelatous in character, which is incompatible with

plastic effusion, sets in—

In the treatment of Secondary Hemorrhage we must of course look to the Cause & direct our therapeutic & surgical management of the Condition accordingly— If arising from disease of the artery the most reliable expedient is to apply a ligature higher up, if this will not hold then apply the actual Cautery which will sometimes succeed when all else fails—

When the Hemorrhage is the result of a Constitutional Cause it is obvious that we must look to that rather than to the local manifestation & our remedial expedients must be directed to the original Source of trouble, which Controlled, the Hemorrhage will cease.

But this is not by any means, always, an easy matter— In patients in whom there exists the Hem-

orrhagic Diathesis before alluded to, it is often difficult & sometimes impossible to arrest the flow from even the slightest wound. & the Surgeon after instituting every kind & variety of medical & surgical expedient, has at last to stand by the bedside of his patient & endure the mortification of witnessing the utter futility of his art. What can be done in these cases?

The obvious indication is to resort to such internal remedies as shall, by acting on the circulating fluid & the tissues tend to counteract the pernicious tendency impressed upon these by the diseased or cachectic condition.

Astringents are the remedies to which we most confidently look for success in these cases & in our choice of agents from this class we should make selection of such as combine tonic properties with their astringency. They act not only on the

part itself, producing Contraction & Condensation of tissue, but by being absorbed into the blood render this fluid more Coagulable & so favor the accomplishment of nature's processes - The articles of this Class that have been most frequently used are Plumbi Acetas & Zinc. Ferri Murias! this latter more especially, since Cases are on record in which this agent Succeeded when every other had failed -

With the administration of internal remedies all auxiliary means should be called in to favor & assist their action, such as complete abstraction from all Causes, Mental as well as physical which would be likely to excite the circulation, & the rational application of such expedients as have been detailed previously as being often efficacious without the application of the Ligature -

Finis.